



Ministry of Transportation

DESIGN-BUILD REQUEST FOR PROPOSALS

For

Design, Construction, Operation and Maintenance of the
Travel Time System

DB Contract Number: 2021-2025
G.W.P. Number: 2004-20-00
Date Issued: December 8, 2021

DB RFP Contract 2021-2025

Summary of Key Information

DB RFP Title and Contract Number	<p>The title of this DB RFP is:</p> <p>Design, Construction, Operation and Maintenance of the Travel Time System</p> <p>The DB Contract Number is: 2021-2025</p> <p>Use this title and number on all correspondence to the Ministry.</p>
Deadline for Submitting DB RFP Enquiries	<p>All DB RFP enquiries shall be submitted by:</p> <p>February 9, 2022 3:00:00 PM Local (Toronto) Time</p> <p>using the bid enquiry function on the RAQS/MERX website: www.raqs.merx.com</p>
Tender Registration Form Submission Deadline	<p>February 11, 2022 12:00:00 Noon Local (Toronto) Time</p>
DB RFP Closing	<p>The DB RFP Closing date and time is:</p> <p>February 16, 2022 1:30:00 PM Local (Toronto) Time</p>
Closing Location	<p>Proponents shall submit their Proposal, by electronic submission only to:</p> <p>www.raqs.merx.com</p>
Anticipated Award Date	<p>Within ninety (90) days after RFP Closing</p>
Rating	<p>Necessary available financial rating is:</p> <p>\$ 3,500,000 in E</p> <p>Necessary available maximum workload rating is:</p> <p>\$ 3,500,000</p>

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CHAPTER 1: INSTRUCTIONS TO PROPONENTS

1.0 Introduction

The Ontario Ministry of Transportation (the "Ministry") is issuing this Design-Build Request for Proposals (RFP) to solicit competitive Proposals in the acquisition of design construction, operation and maintenance of a new Travel Time (TT) Service, Design-Build project (the "Project"). In the Design-Build format defined by this RFP document the design and construction services are combined under one Contract between the Ministry and the Design-Builder.

Companies or joint ventures submitting a Proposal for this RFP shall be responsible for all professional and technical services, supervision, materials, labour and equipment and performing all duties and obligations necessary to design and construct this Project.

Throughout this document reference is made to the Proponent as the entity preparing the response to the RFP. The term "Design-Builder" is used to represent the Preferred Proponent and the context in which it is used relates to Work to be performed once the Agreement is signed with the Preferred Proponent.

1.1 Definitions

For the purposes of this DB-RFP, the following definitions apply:

Bid: also means Proposal.

Bidder: means a person, sole proprietorship, firm, partnership, corporation, or any other business/joint venture that submits a Bid to the Ministry, and also means Proponent.

Bluetooth: means a wireless technology standard used for exchanging data between fixed and mobile devices over short distances using short-wavelength UHF radio waves in the industrial, scientific and medical radio bands, from 2.402 GHz to 2.480 GHz, and building personal area networks (PANs).

Bluetooth Readers: means a Bluetooth probe device that scans for other Bluetooth enabled electronic equipment within its radio proximity and stores the data.

Buffer Time Index: means the difference in 95th percentile travel time (i.e. travel time to be on-time 95% of the time) and historical average travel time for a given time of day, day of week, and location.

Compliant Submission: means Proposals submitted by Proponents that meet the mandatory and minimum requirements to be set out in the Request for Proposal.

Confidential Information: means confidential information of the Crown (other than confidential information which is disclosed to Proponents in the normal course of this RFP); the Confidential Information is relevant to the Work required by the RFP, the pricing

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of the Work or the RFP evaluation process; and the disclosure of which could result in prejudice to the Crown or any unfair advantage to the Design-Builder.

CRCTMC: means Central Region COMPASS Transportation Management Centre.

DB RFP Documents: means the Proposal, MTO General Conditions of Contract, Standard Specifications and Drawings, Special Provisions, Contract Drawings, Addenda incorporated into any aforementioned document, and documents referenced in the aforementioned documents, but excludes the Qualification Procedures for Contractors.

Deliverable(s): means all goods and/or services and work to be provided or performed by the Bidder, pursuant to the Agreement entered into, if any, pursuant to this RFP and includes everything that is necessary to be supplied, done or delivered by the Bidder.

Design-Build (DB): means the delivery model in which an Owner contracts with a single entity to provide both design and construction services.

Design-Builder: means the person, partnership, or corporation designated by the Owner to complete the Work, and also means Contractor.

Destination: means the end (downstream) location a Bluetooth-enabled device is detected by a Bluetooth reader in a link or route.

Free-Flow Travel Time: means the travel time to cover a length of roadway at the posted speed limit.

Full Deployment: means deployment and testing of all Bluetooth Readers specified in the Contract.

Go-Live: means operation of the Travel Time system and provision of the services specified in this RFP following successful completion of the Operability Period.

Innovation, Innovative: means the use of alternative type of material, design change or method change that supports achieving the Project Goals, addressing the Project Key Issues, and results in equal or better quality or effect for the Project.

Issued For Construction Package: means the drawings, quantities, and specifications stamped by an Engineer as final documents to construct the Work.

Late Bid Submission: means a Bid received by the Ministry's Service Provider after the RFP Closing.

Late Bid Notification: is a statement sent by the Ministry's Service Provider to a Bidder notifying the Bidder that their Bid is a Late Bid and will not be considered and is rejected.

Link: means the segment of roadway between two (2) adjacent Bluetooth Readers.

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Lump Sum: means the total amount payable to the Design-Builder for completion of the Work as documented in the Design-Builder's bid.

MERX: means the company (Service Provider) engaged by the Ministry to provide electronic tendering services in respect of this Bid, which is a subsidiary of Mediagrif Interactive Technologies Inc.

Ministry, MTO: means the ministry of the Province known as the Ontario Ministry of Transportation as that ministry may, from time to time, be reorganized, replaced, or renamed.

No Bid Statement: means a 'No Bid' selection on a Summary Bid Submission Form submitted to the Ministry's Service Provider from a Bidder who has an approved Tender Registration Form, but who does not intend on submitting a Summary Bid Submission Form containing a summary Bid prior to the RFP Closing, or intends to withdraw a summary Bid submitted on a Summary Bid Submission Form submitted to the Ministry prior to RFP Submission.

Non-Conformance: means an occurrence of work not meeting the requirements of the Contract Documents, or an occurrence of deficient Material or deficient workmanship.

Non-Resident Contractor: means any Contractor residing outside of the Province of Ontario and with respect to a corporate contractor, not being incorporated pursuant to the laws of Ontario and who has not maintained a permanent place of business in Ontario continuously for twelve months prior to Tender Closing.

ONCTMS: means Ministry COMPASS System central software managing display of messages on Variable Message Signs.

Origin: means the starting (upstream) location a Bluetooth-enabled device is detected by a reader in a link or route.

Operability Period: means the first 30 days following successful completion of the full Travel Time System deployment and System Acceptance Test.

Pilot Deployment: means deployment and testing of at least 5% of Bluetooth Readers intended to serve as a proof that Proponent supplied Travel Time System meets the Contract requirements.

Preferred Proponent: means the lowest bid Proponent with a compliant Proposal.

Project: means the objectives and work described in this DB-RFP.

Qualification Procedures for Contractors: means the administrative routine established by the Ministry to determine that contractors have the financial, managerial, and technical capability to perform the work in accordance with the contract.

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Qualified Contract: means a contract that is tendered in accordance with the Ministry's Qualification Procedures for Contractors.

RAQS: is an abbreviation for Registry Appraisal and Qualification System.

Rated Contractor: means a contractor who has been granted a basic financial rating or maximum workload rating in accordance with the Ministry's Qualification Procedures for Contractors.

Route: means a continuous segment of roadway with an origin and a destination. Typically, the origin of a route is a VMS, and destinations are its displayed location(s). By definition a route is comprised of one or more links and can span one or multiple roadways.

Secured public API: means a data feed from TT System Solution provided as an Application Programming Interface to the Ministry's internal system via secure and encrypted medium.

Slow Traffic: means half of the Free-Flow speed (or double the Free-Flow travel time).

Statutory Bonds: means the surety bonds executed by the Contractor and its Surety and required to be furnished by Part XI.1 of the Construction Act, R.S.O. 1990, c.30, as amended.

Summary Bid Submission Form: means the electronic form obtained from the Ministry's Service Provider prior to RFP Closing that the Bidder is to use to summarize the lump sum offer to perform the Work.

Tender or Bid: can be used interchangeably and means the offer submitted by a Bidder to perform the work required of the RFP Documents at the prices set out in the offer, which offer shall be set out in the forms approved by the Ministry and in accordance with the procedures more particularly described in these Instructions to Bidders. More particularly, the forms shall include, among other things, the Summary Bid Submission Form and the Itemized Bid Form.

Tender Closing or Tender Opening or DB RFP Closing: can be used interchangeably and mean the last date and time that the Ministry will receive Bids as specified in the Summary of Key Information of this DB-RFP.

Tender Registration Form (TRF): means the Ministry approved form supplied by the Ministry completed by Bidders to pre-qualify for Qualified Contracts in accordance with the procedures set out in the Qualification Procedures for Contractors.

Travel Time Service (TT Service): means a Software and Hardware Solution that provides link, route and Travel Time message by matching Bluetooth enabled devices.

Travel Time Index: means the real-time travel time divided by Free-Flow travel time.

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Unbalanced Bid: means a Bid containing a lump sum or unit prices, which does not reflect reasonable actual costs to do the work as described in the Tender Documents, plus a reasonable proportionate share of the Bidder's anticipated profit, overhead costs, and other indirect costs which are anticipated for the performance of the work.

Variable Message Signs: means motorist information displays capable of displaying remotely editable messages in text or graphic symbols.

1.2 Compliance with Instructions

Proponents must comply with these Instructions to Proponents and those failing to do so may have their Proposal response rejected, unless otherwise stated.

1.3 RFP Documents

1.3.1 RFP Structure

The RFP document consists of the following:

Chapter 1: Instructions to Proponents

Describes the project, general roles and responsibilities, and the RFP process to be followed and the Proposal submission and evaluation requirements.

Chapter 2: Project Requirements and Specifications

Describes the general roles and responsibilities and project specific requirements for the design and construction and warranty phases of the Project.

Outlines the mandatory standards that shall be utilized for design and construction including performance requirements of the Design-Builder

Chapter 3: General Conditions of Contract

Describes amendments to OPSS.PROV 100, November 2016, MTO General Conditions of Contract that pertain to the Contract to be signed by the Ministry and the Design-Builder.

Appendix A: Submission Forms

Conflict of Interest – Certification Part 1 (submit with Proposal)

Conflict of Interest – Disclosure Part 2 (submit with Proposal)

Form of Offer (submit with Proposal)

Itemized Bid and Evaluation Form (submit within twenty-four (24) hours of RFP Closing)

DB RFP Contract 2021-2025**Appendix B: Draft Agreement and Design-Build Guarantee**

Draft Agreement (completed by the Ministry and the Preferred Proponent)
 Design-Build Guarantee (submitted by the Preferred Proponent prior to award)

Appendix C: Ministry Supplied Information

Provides a list of information supplied by the Ministry.

Installation of Bluetooth Readers for Travel Time System
 MTO Data Specifications
 Protection of Public Traffic and Environmental Requirements

Appendix D: Certificate of Design and Construction - Supporting Confirmation

Provides a form letter for use by the Design-Builder when applying for Contract Completion.

Appendix E: System Specifications Compliance Matrix**Appendix F: Travel Time Service Level Agreement**

All the documents described in Section 1.3.1 collectively constitute the RFP.

1.3.2 Examination of Documents

Each Proponent shall be solely responsible for examining all the RFP documents, including any Addenda issued during the RFP period, and for independently informing itself with respect to any and all information contained therein, and any and all conditions which may in any way affect the Proponents' Proposal. The Proponent shall be deemed to have satisfied itself of the correctness and sufficiency of the Lump Sum price.

1.4 Objectives

This RFP is for the design, construction, operation, and maintenance of a new Travel Time (TT) Service on various highway corridors in Ministry of Transportation, Ontario, (MTO) Central Region to replace the existing TT Service, operated by the MTO.

The purpose of the TT Service is to provide travel time information to the public on the Ministry operated Variable Message Signs to help motorists make informed route selection decisions and take advantage of faster moving alternate routes, as well as reduce demands in work zones or around incidents/congested areas.

1.5 Project Risk Allocation

In Design-Build, each risk area is typically allocated to the party that is best able to manage that risk. The Risk Allocation Matrix below provides a general summary of the allocation of risks in respect to the Project. Such risk allocation is intended to meet the

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Ministry's goals for the Project. Proponents are advised that the commercial and legal consequences of such risk allocation and the corresponding responsibilities of the Ministry and the Design-Builder for such risks are set forth in the Contract Documents. The Risk Allocation Matrix below serves only as a summary for the Proponent's reference. It is not intended to be a comprehensive description or allocation of the Project's risks. For greater certainty, if there is a conflict between the Risk Allocation Matrix and the provisions of the Contract Documents, the latter shall govern.

Risk Allocation Matrix

Risk Category	Responsibility	
	Ministry	Design-Builder
Design/Engineering		
Project scope definition/design requirements criteria	X	
Errors/omissions/ changes in design		X
Geotechnical/Foundation investigation – to complete the design		X
Changes in scope	X	
Environmental		
Fines, penalties and any costs associated with non-compliance with environmental legislation, regulations and permits		X
Corrective actions to address any non-compliance with environmental legislation, regulations, permits and approvals, any non-conformance with MTO Environmental Standards and Practices or environmental requirements in the Contract Documents		X
Compliance with existing environmental conditions and requirements for protection and mitigation		X
Unforeseen existing environmental conditions and subsequent requirements for protection and mitigation	X	
Changes to Environmental Approvals and permits triggered by Design-Builder's design changes		X
Obtain/advance environmental approvals/ permits required beyond what is provided in the RFP		X
Excess Materials Management		X
Compliance with all aspects of the Class EA		X
Completing an Environmental Screening Document that is reflective of the proposed design and requirements of the DB RFP.		X
Property		
Establish property limits	X	
Property acquisition	X	

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Risk Category	Responsibility	
	Ministry	Design-Builder
Property access based on Design-Builder's design		X
Third Party Relations		
Identification of initial third-party impacts	X	
Establish mitigation measures to address third party impacts		X
Modifications to existing third party permits		X
First Nations and Metis Issues (beyond what is identified in the RFP)	X	
Unforeseen delays by third party/other	X	X
Public Relations/Communications during design & construction	X	X
Utilities		
Utility locates		X
Relocation of Utilities prior to Contract	X	
Damage to Utilities during construction		X
Coordination of changes to Utility locations based on final design		X
Coordination with Utility relocation efforts during Contract		X
Railway		
Obtain initial agreement (Board Order) based on preliminary design	X	
Coordination with railway under agreement during design/construction		X
Construction		
Construction quality/ workmanship/ material quality		X
Schedule		X
Safety		X
Traffic Management/Control/Staging		X
Road Closures/Local Road Detours		X
Completion and Warranty		
Conformance to Performance Requirements during construction, at completion and during Warranty		X
Warranty Repairs		X

1.6 Roles and Responsibilities

1.6.1 Of the Ministry

The role of the Ministry in the execution of the Project shall be to monitor the Work for conformance to the Contract Documents and to ensure that the interests of the Ministry and the public are maintained. Deviations from the Contract Documents may result in a stoppage of the affected elements of the Work until the Design-Builder remedies such a deficiency or a change to the Contract is approved. There is no obligation on the Ministry to compensate for delay or impact costs.

1.6.2 Of the Design-Builder

Under the Contract the Design-Builder shall be solely responsible for, without limitation:

- a) All engineering, design, construction, environmental protection, quality management, administration, commissioning, and related services required to complete the Project according to the requirements of the RFP Documents;
- b) All required consultation with all authorities having jurisdiction, unless noted otherwise in the Contract Documents; and
- c) Obtaining all permits and approvals required for the Project from authorities or agencies having jurisdiction, unless noted otherwise in the Contract Documents.

1.7 Enquiries

Each Proponent shall review all RFP documents, and shall promptly report and request clarification of any discrepancy, deficiency, ambiguity, error, inconsistency or omission contained therein. All enquiries shall be directed in writing by using the RAQS/MERX website: www.raqs.merx.com. All enquiries shall be submitted to the Ministry by the date and time identified in the Summary of Key Information of this RFP. Enquiries received after this date and time may not be responded to.

Where an enquiry results in a change to the requirements of this RFP, the Ministry shall prepare and issue an Addendum to this RFP. The Ministry reserves the right to distribute copies of any or all questions and responses to all Proponents. Unless addressed through an Addendum, all responses to enquiries shall not be incorporated as part of the Contract or in any way change the Contract.

Proponents shall not make verbal enquiries of Ministry personnel. Information given orally by Ministry personnel shall not be binding on the Ministry, nor shall it be construed as a factor in the evaluation of the Proposals. Any attempt on the part of any Proponent or any of its employees, agents, contractors or representatives to contact any member of the Ontario Public Service with respect to this RFP other than as described above in this section may lead to disqualification.

DB RFP Contract 2021-2025**1.8 Addenda**

The Ministry reserves the right to revise the RFP up to the RFP Closing. Any such revisions shall be included in an Addendum to the RFP that shall be posted on the Ministry's RAQS/MERX website under the contract number for this Project. All parties that obtained a copy of the RFP (plan takers), shall be notified electronically when an Addendum or change is entered on the system.

The RFP Closing set for submitting Proposals may be changed by the Ministry if in its opinion more time is necessary to enable the Proponents to prepare/revise their Proposals. Any change to the RFP Closing shall be issued by an Addendum.

1.9 Ministry Supplied Information

This RFP may not contain all of the information that Proponents might need in order to submit a Proposal. Proponents shall be responsible for obtaining any additional information that may be required.

The Ministry supplied information listed in Appendix C of this RFP is provided solely for information purposes. The Ministry warrants that information provided can be relied upon for accuracy at the time and location that it was obtained but does not warrant any omissions, interpretations of data, opinions, or recommendations in the information provided.

Any "reference concepts" or "preliminary designs" included in Appendix C are for information purposes only. It is the Design-Builder's responsibility to generate alternatives and develop the design for the preferred alternative. The Design-Builder shall be responsible for all aspects of the design and construction for the preferred alternative.

Each Proponent shall satisfy itself as to the sufficiency of the information presented and obtain any updated or additional information, and perform any studies, analysis or investigations the Proponent deems necessary in order to deliver the requirements of this Project. Proponents shall inform the Ministry of any inaccurate information identified.

All requirements, designs, documentation, plans and information viewed or obtained by the Proponent in connection with this RFP are the property of the Ministry and shall be treated as confidential and not used for any purpose other than replying to this RFP and the fulfillment of any resulting Contract. Upon request of the Ministry, all such designs, documents, plans and information shall be returned to the Ministry.

1.10 Site Access**1.10.1 Overview**

The Ministry shall allow each Proponent to have access to the site, for purposes of conducting additional surveying, testing or investigations prior to the RFP Closing. As access shall be approved by the Ministry, the Proponents shall submit a request for site access in writing using the bid enquiry function on the RAQS/MERX website:

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www.raqs.merx.com.

Proponents shall give the Ministry as much advanced notice as possible in order to secure requested access dates; notice shall be a minimum of ten (10) Business Days prior to the requested site visit date stating the purpose of the request. As part of the site access request, the Proponents shall include an encroachment permit application and a plan illustrating the testing location, type of testing and purpose of testing. Each Proponent shall be given access to the site for a maximum one-week period. The Ministry shall control the schedule based on order the request is received (first come-first served basis) to ensure access to all Proponents.

Traffic control for all site investigations shall be completed according to Book 7 of the Ontario Traffic Manual. The Proponent is responsible for Utility locates prior to site access.

Encroachment permit applications are available online at:

<http://www.mto.gov.on.ca/english/engineering/management/corridor/encroach.shtml>

Following completion of any testing, the Proponent shall provide to the Ministry a listing of the tests completed and their locations (including GPS coordinates) certified by their geotechnical/foundations Engineers.

Proponents shall make their own arrangements with property owners prior to entering any portions of the site not owned or controlled by the Ministry. Copies of any releases obtained with property owners shall be provided to the Ministry. As a condition of entering any portion of the site, including without limitation as part of any briefing conducted pursuant to this RFP, the Proponent irrevocably accepts full liability for any and all events arising from or in connection with any site access, and the Proponent indemnifies the Province, including its servants, agents, representatives, and employees, for any loss or damages suffered by the Proponent, the Ministry, including its servants, agents, representatives and employees, or any third party arising, either directly or indirectly, in contract or in tort, from or in connection with any acts or omissions of the Proponent or its servants, employees, agents and representatives.

1.10.2 Licenses and Permits

The Proponent assumes full responsibility for obtaining and holding any and all rights, permits, licences, consents, approvals and authorizations issued by any governmental agency or authority or other person required to carry out its investigations regarding the Work.

1.11 Changes to the Proponent Team

The Ministry is under no obligation to consider or accept any substitutions for the persons named in the Proponent's DB-RFP Proposal. Proposed personnel substitutions by a Proponent shall require written approval from the Ministry, prior to any such change. Updated Conflict of Interest - Certification Part 1 and Disclosure Part 2 forms (found in Appendix A) shall be provided to support any proposed personnel substitution.

1.11.1 Following Award

If the Design-Builder wishes to make any addition, deletion or other change to the key firms or key personnel provided in their Proposal after award, the Design-Builder shall notify the Ministry in writing as to the proposed change. The Design-Builder shall identify a substitution and the reasons for the change and substitution. The Design-Builder shall provide sufficient documentation to enable the Ministry to consider, evaluate and determine the implications of the proposed change and substitution pursuant to the terms of this RFP. The Design-Builder shall demonstrate to the satisfaction of the Ministry that the proposed substitute has equal or better qualifications, experience and ability when compared as a whole to the original named entity or person and is otherwise suitable for the particular position.

If the Design-Builder fails to provide a change acceptable to the Ministry, the Design-Builder shall either retain the previously accepted team or resubmit an acceptable alternative team member. Any work or deliverables related to the affected discipline shall not be submitted until an acceptable team change is proposed. The Design-Builder shall be responsible for all impacts related to this team change, including schedule.

1.12 Restricted Parties

Any firm currently under direct contract with the Ministry for this Project is not eligible to advise any Proponent, directly or indirectly, or participate in any way as an employee, advisor, consultant, member or otherwise in connection with any Proponent in relation to the Project.

The Ministry may, in its sole discretion, disqualify a Proponent or impose such conditions on its continued participation in the RFP process as the Ministry may, in its sole discretion, consider to be in the public interest, consider to be required to satisfy itself that any actual or potential conflict or the impact of any existing relationship has been appropriately managed, mitigated and minimized or consider otherwise appropriate.

In addition, any firm under direct contract with the Design-Builder for this Project is restricted from providing Contract Administration services for this Project.

1.13 Proposal Submission Requirements

1.13.1 General

Proposals in response to this RFP shall contain two separate parts and shall be submitted according to the format and content outlined in Section 1.13 and the process and procedures in Sections 1.14 and 1.15.

Part 1:	Technical Proposal
Part 2:	Price Proposal

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All Proponents must have a valid user ID and password to access the RAQS/MERX website and must have a Ministry approved Contractor Registration Form (CRF) and a Ministry approved Tender Registration Form (TRF) for Qualified Contracts for the submission of a Proposal in respect of this RFP. Failure to obtain an approved TRF will disallow the Proponent from submitting a Proposal on the basis of failing to comply with the Instructions to Proponents without any consideration by the Ministry.

The Proponent's TRF shall be received by the Ministry in accordance with the Summary of Key Information.

1.13.2 Statutory Bonds

If the Price Proposal is five hundred thousand dollars (\$500,000) or more, the Contractor shall furnish the Ministry with the Statutory Bonds in the prescribed form that satisfies the requirements of the Construction Act, R.S.O. 1990, c.30, as amended. In this regard, the Contractor shall deliver and maintain a labour and material payment bond using Form 31 and a performance bond using Form 32 prescribed by the Construction Act from a surety company that is an insurer licensed under the Insurance Act to write surety and fidelity insurance. Such bonds shall name Her Majesty the Queen in right of the Province of Ontario as represented by the Minister of Transportation as an obligee. Each such bond shall have a coverage limit of at least 50 per cent of the tender price.

1.13.3 Pre-Qualification Requirements

The Proponent organization shall be a Rated Contractor according to the Ministry's Qualification Procedures for Contractors.

It is the Proponent's responsibility to ensure that it has the required Available Financial Rating and Maximum Workload Rating according to the Summary of Key Information of the RFP. Proposals shall be accepted only from Rated Contractors with the Necessary Available Financial Rating and the Necessary Maximum Workload Rating at the time of Tender Registration Form submission for the RFP.

After award of the Contract, the Design-Builder shall be required to show "work on hand" from this Contract on any subsequent Ministry of Transportation pre-qualification application.

Instructions regarding the qualification process and associated forms are available through the RAQS/MERX website www.raqs.merx.com or by contacting:

Contract Management Office – Qualification Section
Ministry of Transportation
301 St. Paul Street
St. Catharines, Ontario
L2R 7R4
QualificationControl@ontario.ca
Tel: 905-704-2144

1.13.4 Joint Ventures and Joint Bids

Joint venture and joint bid Proponents, whether or not they form a corporation for the purpose of submitting a Proposal, shall comply with all of the requirements described within this Request for Proposal including pre-qualification requirements, unless otherwise specified, and further shall comply with the following:

- a) **Joint and Several Liability/ Design-Build Guarantee.** If the joint venture or joint bid companies have not formed a corporation to undertake the Work, all of the joint venture or joint bid companies, as the case may be, shall sign the Agreement upon execution. The Design-Build Guarantee shall specify that all of the joint venture or joint bid companies are jointly and severally liable for all obligations under the Contract.

In the case where the joint venture or joint bid companies have formed a corporation to undertake the Work, the joint venture or joint bid companies identified on the "Tender Registration Form" shall sign the Design-Build Guarantee, a copy of which is provided in Appendix B upon execution of the Contract as a condition of award. The Design-Build Guarantee requires the guarantors to absolutely, unconditionally and irrevocably guarantee, on a joint and several basis, as a direct obligation, and as principal obligor and not as a surety, the full and prompt performance and observance by the Design-Builder of each and every covenant, agreement, undertaking and obligation of the Design-Builder contained in the Contract. The Design-Build Guarantee includes the guarantee of any additional obligations of the Design-Builder negotiated subsequently between the parties according to this Contract.

- b) **Authority.** The Ministry shall not deal separately with the individual joint venture or joint bid companies. The joint venture or joint bid Proponent shall be able to demonstrate to the Ministry's satisfaction that the joint venture or joint bid shall operate cohesively. The Ministry shall deem all of management and supervisory personnel as having the authority to bind the joint venture or joint bid, regardless of which company actually employs such employee.
- c) **Internal Dispute Resolution.** The joint venture or joint bid Design-Builder shall be able to demonstrate to the Ministry that decisions which bind the joint venture or joint bid shall be made in the appropriate length of time, recognizing that the obligations under the Contract shall still be met. In order to ensure that internal disputes among the joint venture or joint bid companies do not jeopardize the Work, the joint venture or joint bid Design-Builder shall, upon the Ministry's request which may be made at any time, provide the Contract Administrator with a copy of its internal dispute resolution procedure, duly signed by all of the joint venture or joint bid companies.

1.13.5 Proposal Submission Procedures

Technical assistance with Proposal submissions can be obtained by contacting the RAQS/MERX help desk: <mailto:raqs@merx.com>.

1.13.5.1 Technical Proposal Submission

Technical Proposals shall be received by the Ministry according to the Summary of Key Information. The format and content of the technical Proposal shall be in conformance with the requirements in Sections 1.14 Technical Proposal Format and 1.15 Technical Proposal Content of the RFP.

Any technical Proposal not received in advance of the RFP Closing shall result in automatic disqualification of the Proponent's Proposal.

No hard copy or fax transmissions shall be accepted.

Proponents shall submit their technical Proposal electronically as an attachment on the Summary Bid Submission Form on the RAQS/MERX website. Only a Proponent with an approved Tender Registration Form (TRF) is allowed to complete and submit a Summary Bid Submission Form to the Ministry.

Proponents may submit a revised technical Proposal up until RFP Closing. The Ministry shall consider only the last technical Proposal received prior to RFP Closing

Each Proponent shall examine all instructions, terms and conditions, forms and information in the RFP documents and the responses to enquiries; and in a clear, concise and legible manner, complete and submit all documentation and information required by this RFP. Incomplete submissions may result in disqualification of the Proponent's Proposal.

1.13.5.2 Price Proposal Submission (Electronic Submission)

Electronic price Proposals shall be received by the Ministry according to the Summary of Key Information. Any price Proposal not received in advance of the RFP Closing shall result in automatic disqualification of the Proponent's Proposal.

Each Proponent shall submit an electronic bid by completing an on-line Summary Bid Submission Form on the RAQS/MERX website. Only a Proponent with an approved TRF for the advertised RFP is allowed to complete and submit a Summary Bid Submission Form to the Ministry.

Proponents may submit a revised on-line Summary Bid Submission Form until RFP Closing. The Ministry shall consider only the last Summary Bid Submission Form received by the Ministry prior to RFP Closing.

Upon successfully submitting an on-line Summary Bid Submission Form, Proponents shall receive an on-line notification for information purposes that the Ministry has received their Summary Bid Submission Form.

Within twenty-four (24) hours of RFP Closing Proponents shall be required to submit a

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detailed Itemized Bid and Evaluation Form (sample provided in Appendix A) electronically by email in a “read only” Adobe (PDF) format to contracttendering@ontario.ca.

This form is required for contract administration and evaluation of the bid and is available for download in Microsoft Excel format on the RAQS/MERX website.

Upon completion of the evaluation of the technical Proposals, the Itemized Bid and Evaluation Form shall be opened and used for evaluation of Bid price and assessed for unbalanced bidding.

No bid prices shall be published until after the award process has been completed. Once an award has been completed, the Ministry shall post on the RAQS/MERX website the Preferred Proponent's Bid price and the names of the other Proponents with compliant Proposals in order of their ranking in the evaluation.

1.13.6 Computer System Failure

The Ministry shall only accept Proposals submitted electronically through RAQS/MERX. Any Proposal received through any other format shall not be considered and is deemed rejected without consideration.

The Ministry accepts no responsibility for any reason whatsoever, including computer system failures of either the Proponent or the Ministry Service Provider, if the Proponent is unable to submit its Proposal before RFP Closing and the Proponent agrees that the Ministry shall have no liability, for delays caused by internet/network traffic, degraded operation or failure of any computer system element, including, but not limited to: any computer system, power supply, telephone or data connection or system or software or browser of any type whatsoever.

It is the sole responsibility of the Proponent to ensure that it can access and exchange data with computer systems electronically and that it allows sufficient time to successfully access and share data with computer systems, having regard to the possibility of delays caused by internet/network traffic. Proponents are solely responsible to ensure that they plan their access to computer/servers, so that the Proponents can reach the computers/servers before RFP Closing.

1.13.7 Unbalanced Price Proposal and Discrepancies

Proponents that submit an Itemized Bid and Evaluation Form that contains prices that appear to represent an unbalanced price Proposal may be referred to the Ministry's Qualification Committee and any price Proposals that are so unbalanced that they may adversely affect the interests of the Ministry may be rejected.

The Ministry shall not allow any Proponent to adjust the total price Proposal Lump Sum after RFP Closing.

In the event of a mathematical error or discrepancy in the Itemized Bid Evaluation Form, the Ministry may request the Proponent to resubmit the Itemized Bid and Evaluation Form without changing the Lump Sum price.

DB RFP Contract 2021-2025**1.13.8 No Collusion**

No Proponent shall discuss or communicate with any other Proponent or prime team member of any other Proponent (or any employee, representative or agent thereof) about the preparation of the Proposals. Each Proponent's Proposal shall be submitted without any connection, knowledge, comparison of information or arrangement with any other Proponent or prime team member of any other Proponent (or any employee, representative or agent thereof) and each Proponent shall be responsible to ensure that its participation in this RFP process is conducted fairly and without collusion or fraud.

1.13.9 Ownership of Responses

All documents, including Proposals, submitted in response to this RFP become the property of the Ministry. Documents shall be held in confidence by the Ministry, subject to any and all applicable laws, including the Freedom of Information and Protection of Privacy Act.

1.14 Technical Proposal Format

Each Proponent shall submit a technical Proposal according to the Summary of Key Information. The technical Proposal shall:

- a)
 - i. Include one document in a "read only" Adobe (PDF) format (maximum file size 75 MB) of the technical Proposal.
 - ii. One copy of the file(s) used to prepare the technical Proposal in the original file format (e.g. MS Word/Excel, AutoCAD drawing files, scheduling files, etc.) shall be provided to the Ministry upon request.
 - iii. File names for electronic documents shall also include the Proponent's name, title of the document and Contract number.
- b) The technical Proposal shall be marked on the outside with the RFP Title and Contract Number identified in the Summary of Key Information along with the Proponent's name and address. Each technical Proposal and each appendix (if applicable) shall include a header or footer that includes the RFP Title and Contract Number identified in the Summary of Key Information) along with the Proponent's name
- c) Technical Proposals shall be structured according to the requirements of Section 1.15 Technical Proposal Content.

The maximum allowable number of pages in the technical Proposal shall not exceed one hundred and fifty (150) pages (the Mandatory Submission Requirement documents detailed in Section 1.15.2 are NOT included in the page count). Any additional information or appendices provided by the Proponent

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beyond the specified page limit shall not be reviewed or evaluated by the Ministry.

- d) Technical Proposals shall contain a table of contents. Use of appendices shall be limited and would typically consist of plan sheets or other illustrative information and should not include narrative text except if specifically required by this RFP.

Technical Proposals shall be formatted on 8.5" x 11" pages. Diagrams and drawings may be formatted on 11" x 17" pages.

- e) Schedules (Gantt Chart) may be formatted on 11" x 17" pages.

The font type shall be "Arial" – No other font type shall be used. "Arial Narrow" is not permitted. Minimum font size shall be 12 point.

- f) Technical Proposals shall not include links to external information.

1.15 Technical Proposal Content

1.15.1 Overview

All technical Proposals submitted by Proponents shall include all the information included in Section 1.16 Technical Proposal Content and shall describe in detail how the Proponent shall meet or exceed the requirements of this RFP, including the project goals.

Technical Proposal Requirements

Mandatory Submission Requirements	
Transmittal Letter (according to section 1.15.2.1) Conflict of Interest – Certification Part 1 (according to section 1.15.2.2) Conflict of Interest – Disclosure Part 2 (according to section 1.15.2.2) Form of Offer (according to section 1.15.2.3)	
Rated Requirements	
Proponent Description, Relevant Experience, Qualifications and Expertise (according to section 1.15.3.1) Proponent Profile Relevant Qualifications and Experience	
Understanding of Scope of Work (according to section 1.15.3.2) Understanding of Contract Requirements Workplan and Schedule – Gantt Chart Innovative Approach	
Proponent Project Management Plan (according to section 1.15.3.3) Project Team and Qualifications Management Plan	
System Components, Product and System Concept (according to section 1.15.3.4) System Concept Infrastructure Components and Product Cut Sheets	

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Compliance with System Specifications (according to section 1.15.3.5)
Operations, Warranty and Maintenance Plan (according to section 1.15.3.6) Operations and Maintenance Plan System Redundancy Procedure

1.15.1.2 RAQS Registration Requirements

Firms undertaking work in the following design areas shall have RAQS registration:

- Advanced Traffic Management Systems under the category of Electronic Subsystem Design Construction Contract Administration and Specialized Inspection Services

Respondents are required to confirm in their DB-RFP Submission RAQS Registration in these specialties.

1.15.2 Mandatory Submission Requirements**1.15.2.1 Transmittal Letter**

Each Proponent shall submit a transmittal letter identifying the complete name and address of the Proponent which shall have responsibility for performing the Project as well as the name, title, telephone number, and email address of that Principal who shall serve as point of contact regarding this project.

1.15.2.2 Conflict of Interest Confirmations

Each Proponent shall include in its Proposal, confirmation that:

- a) The Proponent does not and shall not have any conflict of interest (actual or potential) in submitting its Proposal or, if selected, with the contractual obligations of the Proponent as Design-Builder under the Contract. Where applicable, the Proponent shall declare in its Proposal any situation that may be a conflict of interest in submitting its Proposal or if selected, with the contractual obligations of the Proponent as Design-Builder under the Contract; and
- b) The Proponent neither has nor had access to any Confidential Information.

The form for the confirmation above is provided in Appendix A: Submission Forms and titled "Conflict of Interest – Certification Part 1". The signed and completed form shall be submitted as part of the Proponent's Proposal.

In addition, each Proposal shall include the following information:

- a) A list of the names, addresses, and telephone numbers of the persons who participated in the development of the Proposal; and
- b) A list of the names of any former employees of the Ontario Public Service, their

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job classifications and the particular ministries where these individuals were working immediately prior to their leaving the Crown.

The Proposal of any Proponent may be disqualified where the Proponent fails to provide confirmation of the foregoing or makes misrepresentations regarding any of the above. Further, the Minister shall have the right to rescind any Contract with the Preferred Proponent in the event that the Minister in his/her sole discretion determines that the Preferred Proponent has made a misrepresentation regarding any of the above, in addition to or in lieu of any other remedies that the Minister has in law or in equity.

The form for this information is provided in Appendix A: Submission Forms and is titled "Conflict of Interest – Disclosure Part 2". This form shall be signed and completed and submitted as part of the Proponent's Proposal.

1.15.2.3 Form of Offer

Each technical Proposal shall include a Form of Offer (Appendix A: Submission Forms) completed and signed by the Proponent.

The Ministry, in addition to any other remedies it may have in law or in equity, shall have the right to rescind any Contract awarded to a Proponent in the event that the Ministry determines that the Proponent made a misrepresentation or submitted any inaccurate or incomplete information in the Form of Offer.

Other than inserting the information requested and signing the Form of Offer, a Proponent may not make any changes to or qualify the Form of Offer in its technical Proposal. A technical Proposal that includes conditions, options, variations or contingent statements that are contrary to or inconsistent with the terms set out in the RFP may be disqualified.

If a technical Proposal is not disqualified despite such changes or qualifications, the provisions of the Form of Offer as set out in this RFP shall prevail over any such changes or qualifications in or to the Form of Offer provided in the technical Proposal.

1.15.3 Rated Requirements**1.15.3.1 Proponent Description, Relevant Experience, Qualifications and Expertise**

Provide details about ability to provide the goods and services as described in Chapter 2 (maximum five (5) pages).

1.15.3.1.1 Proponent Profile

Provide a description of the Proponent including the prime Contractor and Subcontractors and/or joint venture partners, location, management structure, number of employees and number years' experience delivering Travel Time Services.

1.15.3.1.2 Relevant Qualifications and Experience

Relevant Corporate Project Profiles and References within last 5 years and number of years' experience delivering similar systems and services.

1.15.3.2 Understanding of Scope of Work

The Proponent shall provide details on their understanding of the scope of work as described in Chapter 2 (maximum five (5) pages).

1.15.3.2.1 Understanding Contract Requirements

Provide description of understanding of the Contract requirements, scope of work, services to be delivered, highlighting important issues, risks and challenges.

1.15.3.2.2 Work Plan and Schedule

The Proponent shall provide a workplan and schedule in the form of a Gantt Chart.

1.15.3.2.3 Innovative Approach

The Proponent shall list any special considerations or innovative approach that will allow to meet or exceed the contract requirements.

1.15.3.3 Project Management Plan

The Proponent shall provide a description of their organizational structure and project management plan indicating how they intend to structure its working relationship with the Ministry to fulfill the requirements of the work (maximum ten (10) pages).

1.15.3.3.1 Project Team and Qualifications

Provide a description of the Proponents project team and their qualifications:

- a) Organizational chart that clearly lists the individuals responsible for the Services and Deliverables over the duration of the Contract, the roles and reporting structure.
- b) Project Manager Profile, experience on similar projects within last five (5) years, authority to make decisions.
- c) Experience of the team members, their role descriptions relevant to the services being procured in a short biography and resumes. (Resumes will be a maximum of four (4) pages each and shall be provided separately and are not included in the page limit).

1.15.3.3.2 Management Plan

Provide a description of Project Management Plan including:

- 1. Commitment to meeting the Project Timelines
- 2. Commitment to Quality of Services to be delivered
- 3. Commitment to Traffic Control
- 4. Commitment to Occupational Health and Safety

DB RFP Contract 2021-2025**1.15.3.4 System Components, Product and System Concept**

The Proponent shall provide a detail of the goods and services to be provided. (no page limit, however the maximum submission total page count shall not be exceeded).

1.15.3.4.1 System Concept

The Proponent is to provide the general System architecture and Concept of Operations.

1.15.3.4.2 Infrastructure Components and Product Cut Sheets

The Proponent is to provide the functional specifications of Travel Time System related infrastructure components and product cut sheets.

1.15.3.5 Compliance with System Specifications

The Proponent are required to submit a completed Software Compliance Matrix as supplied by the Ministry indicating compliance of their product with system requirements. Proposals without a Software Compliance Matrix shall be rejected, and their financial bid will not be considered. On a requirement-by-requirement basis, the Proponent shall include an explanation of their understanding of the requirement and demonstrate how their solution meets the requirement. Should the proposed solution not meet some of the requirements at time of Proposal, the Proponent shall provide explanation in the column "Additional Details" on how the product will be modified to comply with the requirements prior to the start of operations or what alternative functionality will be delivered (no page limit, however the maximum submission total page count shall not be exceeded).

1.15.3.6 Operations, Warranty and Maintenance Plan

The Proponent is to provide detailed plan on how to operate, maintain and report status of the system to demonstrate requirements (no page limit, however the maximum submission total page count shall not be exceeded)

1.15.3.6.1 Operations and Maintenance Plan

Provide a description of:

1. Plan for meeting system performance requirements outlined in the Service Level Agreement.
2. How the Proponent will operate, maintain and report on status of the system.
3. How the Proponent will provide a warranty of the products and services, any limiting terms or conditions.

1.15.3.6.2 System Redundancy Procedure

The Proponent is to provide description of system redundancy and fail-over procedure.

DB RFP Contract 2021-2025**1.16 Proposal Evaluation and Award****1.16.1 Evaluation Approach**

Based on the evaluation of the responses to this RFP, the Ministry's goal is to select the Design-Builder with the highest cumulative score to complete the Project according to the Project goals.

Each technical Proposal shall initially be screened to determine if it meets the format, page limit and mandatory submission requirement criteria according to Sections 1.14 Technical Proposal Format and 1.15 Technical Proposal Content of this RFP.

Proposals which do not comply with all of the submission requirements may, subject to the express and implied rights of the Ministry, be disqualified and not evaluated further.

Technical Proposals compliant with the format, page limit and mandatory submission requirements shall proceed to the evaluation of the rated requirements according to Section 1.16.2 Technical Proposal Evaluation.

For the purposes of this RFP, a consensus meeting will be held at the end of the Technical Proposal Evaluations to discuss the evaluations. Scores will be averaged and kept to two decimal places to arrive at the final score of the Technical Proposal. These scores will determine if the Proponent has achieved the required score to continue to the Pricing Proposal Evaluation.

1.16.2 Technical Proposal Evaluation

RFP responses shall be evaluated based on how well the technical Proposals meet with the Project requirements and how the Proponent shall ensure the Work shall conform to the Specifications outlined in Chapter 2 of this RFP. The Ministry shall consider compliance as well as general feasibility when evaluating Proposals. The weightings provided in the table Evaluation Criteria Weighting shall be used when scoring the technical Proposal.

Required overall total score of at least 60 percent of the available points shall be achieved for the Technical Proposal. Failure to achieve the minimum total score shall result in the Technical Proposal being deemed non-compliant.

Table 2: Evaluation Criteria Weighting

Mandatory Submission Requirements	Submitted
Transmittal Letter	(yes/no)
Conflict of Interest – Certification	(yes/no)
Conflict of Interest – Disclosure	(yes/no)
Form of Offer	(yes/no)

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Rated Requirements	Total Available Points
Proponent Description, Relevant Experience, Qualifications and Expertise	10
Proponent Profile	5
Relevant Qualifications and Experience	5
Understanding of Scope of Work	5
Understanding Contract Requirements	2
Work Plan and Schedule	1
Innovative Approach	2
Proponent Project Management Plan	5
Project Team and Qualifications	3
Management Plan	2
System Components, Product and System Concept	10
System Concept	5
Infrastructure Components and Product Cut Sheets	5
Compliance with System Specifications	20
Operations, Warranty and Maintenance Plan	10
Operations and Maintenance Plan	5
System Redundancy Procedure	5
Total Points Available / Overall Minimum Required	60

1.16.2.1 Technical Evaluation Scoring

To ensure consistency in the scoring process the evaluation team shall use the rating system identified in the table Rating Descriptors as a guide when scoring all technical Proposals.

Table 3: Rating Descriptors

Evaluation Components	Score
The Bidder has failed to demonstrate an understanding of the scope of this requirement	0
The Bidder has demonstrated a basic understanding of, but not the ability to fulfill several key expectations of, this requirement	1

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The Bidder has demonstrated a basic understanding of, but not the ability to fulfill at least one key expectation, of this requirement	2
The Bidder has demonstrated a basic understanding of, and the ability to adequately fulfill the scope of, this requirement	3
The Bidder has demonstrated a thorough understanding of, and the ability to adequately fulfill or exceed the scope of, this requirement	4
The Bidder has demonstrated extreme insight and an outstanding ability to adequately fulfill or exceed the scope of this requirement, and the ability to provide excellent leadership and support	5

1.16.3 Clarification

As part of the evaluation process, the Ministry may, in its sole discretion, request written clarifications from any Proponent after the RFP Closing. Unless otherwise specified in the written request, any Proponent requested to provide clarification shall have twenty-four (24) hours to deliver the requested clarification electronically by e-mail, in “read only” Adobe (PDF) format, to contracttendering@ontario.ca.

The Ministry reserves the right to accept or reject any written clarification(s) submitted by a Proponent. Altering the content of the original submission and/or Lump Sum price is not the purpose of clarification(s). The response received by the Ministry from a Proponent shall, if accepted by the Ministry, form an integral part of that Proponent's Proposal.

In the event that the Ministry receives information at any stage of the evaluation process which results in earlier information provided by the Proponent being deemed by the Ministry to be inaccurate, incomplete or misleading, the Ministry reserves the right to re-evaluate the Proponent's compliance with the rated requirements of the Proposal.

The Ministry reserves the right to interview any or all Proponents to obtain information about or clarification of their Proposals.

1.16.4 Price Proposal Evaluation

Upon completion of the evaluation of the technical Proposals, the Proponent's price Proposal shall be retrieved from the Electronic Bidding System and evaluated for compliance with the terms and conditions of the RFP.

The Proponent's price will be evaluated using the relative formula set out below, using the Total Price submitted in the Proposal to determine the total pricing score.

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Each eligible Proponent will receive a percentage of the total possible forty (40) points allocated to price by dividing the lowest Proposal price by the Proponents price.

$(\text{Lowest price}) \div (\text{Proponent's price}) \times \text{total available points} = \text{pricing score for the Proposal.}$

For example, if the lowest price is \$120.00, that Proponent receives 100% of the possible points ($120/120 = 100\%$), a Proponent who bids \$150.00 receives 80% of the possible points ($120/150 = 80\%$) and a Proponent who bids \$240.00 receives 50% of the possible points ($120/240 = 50\%$).

1.16.5 Award

The Ministry shall determine the Preferred Proponent where all scores will be added and, subject to the express and implied rights of the Ministry, the Proponent with the highest scoring, compliant Proposal will be selected to enter into the Agreement.

In the even that there are multiple Proponents achieving identical cumulative scores at the end of all evaluation stages, the tie will be broken by two decimal places.

Final selection of the Preferred Proponent is subject to required Ministry approvals. It is anticipated that the acceptance of a Proposal and the notification of award shall be made in writing within approximately ninety (90) Days of the RFP Closing.

1.16.6 Execution of Contract

Upon conclusion of any clarifications, the Ministry shall provide the Preferred Proponent with an electronic copy of the Agreement to be executed. Within seven (7) Business Days of the Preferred Proponent's receipt of these documents, the Preferred Proponent shall return them to the Ministry fully executed, together with the required insurance policies, statutory bonds and, if applicable, the signed Design-Build Guarantee.

Following receipt of all properly executed forms and documentation, the Preferred Proponent will receive written authority to proceed with the work.

In the case that a Contract is not successfully executed within seven (7) Business Days of delivery of the executable form of the Agreement to the Preferred Proponent, the Ministry may at its sole discretion disqualify that Proponent and offer award to the Proponent with the second highest score and a compliant Proposal, and the defaulting Proponent shall be liable for all losses, damages, costs and expenses (including consequential losses and damages, and legal fees on a solicitor-and-his-own-client basis) suffered or incurred by the Ministry as a direct or indirect result thereof, including but not limited to any increase in the price of performance over the price submitted by the defaulting Proponent in its Proposal.

If the Preferred Proponent fails to return the applicable documents as directed in the notification of acceptance of Tender, within seven (7) Business Days of receipt of such notification, the Ministry may reject the Bid on written notice to the Bidder and refer the

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matter to the Ministry's Qualification Committee without prejudice to any right or remedy the Ministry may have in law.

If the Preferred Proponent fails for any reason to enter into the Contract within the specified time, then it shall not be allowed to work on the Contract as a subcontractor or be allowed to supply any material, equipment or labour to the Contract and the matter shall be referred to the Ministry's Qualification Committee without prejudice to any right or remedy the Ministry may have in law.

1.16.7 Debriefing

Any Proponent may request in writing by email to contracttendering@ontario.ca, a confidential debriefing with the Ministry. A request for debriefing shall be made within ten (10) Days of Contract Award. Any requests for debriefing received more than ten (10) Days after contract award shall not be considered.

1.17 Additional Terms and Conditions of the RFP

By submitting the Proposal, the Proponent acknowledges and agrees with the following terms and conditions:

- a) The Ministry reserves the right, as it may determine in its sole and absolute discretion, to:
 - i. reject any or all Proposals;
 - ii. accept any Proposal;
 - iii. if only one Proposal is received in response to this RFP, elect to reject it;
 - iv. withdraw this RFP at any time and for any reason; or
 - v. alter the schedule, Proposal call process or procedures or objectives, or any other aspect of this RFP.
- b) Proposals submitted are irrevocable and shall remain in effect and open for acceptance by the Ministry for a period of ninety (90) Days after the RFP Closing as identified in the Summary of Key Information.
- c) The Ministry does not bind itself to accept any Proposal and may proceed as, in its sole and absolute discretion, it determines, following receipt of the Proposals. The Ministry reserves the right to amend or modify any term of this RFP or otherwise revise the RFP. The Ministry may invalidate the RFP and may issue a second RFP.
- d) All costs and expenses incurred by Proponents relating to their Proposals shall be borne by the Proponents. The Ministry is not liable to pay such costs and expenses or to reimburse or compensate Proponents, or persons connected with the Proponent, under any circumstances, including the rejection of any or all Proposals, the cancellation of the RFP, or the failure to negotiate a contract with a Proponent.

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- e) The Ministry shall not accept responsibility for any delays or cost associated with any reviews or approval processes.
- f) The Ministry may, if deemed necessary, verify any information provided in any Proposal.
- g) It is clearly understood that if there is any evidence of misleading or false information having been given, the Ministry may, in its sole discretion, reject the Proposal.
- h) The acceptance of a Proposal shall be made in writing. There shall not be a binding Contract for the Work unless and until the Ministry and the Preferred Proponent have entered into the Contract contemplated in this RFP.
- i) The Design-Builder shall be required to ensure that there is no change in effective control of the Design-Builder for the duration of the Contract. If there is a change in effective control, the Ministry reserves the right, at its sole and absolute discretion to cancel the Contract and to issue a new RFP or approve the change in control or to approve the change in control subject to conditions imposed by the Ministry.
- j) This RFP does not constitute an offer of any nature or kind whatsoever to the Proponents, or persons connected with the Proponent.

CHAPTER 2: PROJECT REQUIREMENTS AND SPECIFICATIONS

2.0 Objectives

This RFP is for the design, construction, operation and maintenance of a new Travel Time (TT) Service on various highway corridors in Ministry of Transportation, Ontario, (MTO) Central Region to replace the existing TT System, operated by the MTO.

The purpose of the TT Service is to provide travel time information to the public to help make informed route selection decisions and take advantage of faster moving alternate routes, as well as reduce demands in work zones or around incidents/congested areas.

The TT Service shall provide travel time information to be displayed on MTO owned Variable Message Signs (VMS) for the destinations specified in Appendix C.

The TT Service shall be comprised of the following components:

1. Bluetooth (BT) Readers with all associated mounting, power and communications infrastructure and services required for operation of the BT units and as defined elsewhere in the RFP document;
2. TT System Solution that shall process the real-time detection data and field equipment status and generate travel times for the specified road segments; and
3. Internet service allowing MTO central system to retrieve the TT data for publishing on VMS.

The Bid includes the following Phases of the TT Service delivery:

1. Design;
2. Construction and System Proof-of-Performance Testing and Removal of Existing System; and
3. Operation, Maintenance and Support for five (5) years, including LTE Service required to operate the system.

At the end of Operation, Maintenance and Support Phase, the MTO may exercise the optional extension of the TT Service for two (2) additional years.

Exhibit 1 presents an overview of the TT Service being procured under this RFP (the Solution). The overall data process required by the TT Service software shall be as follows:

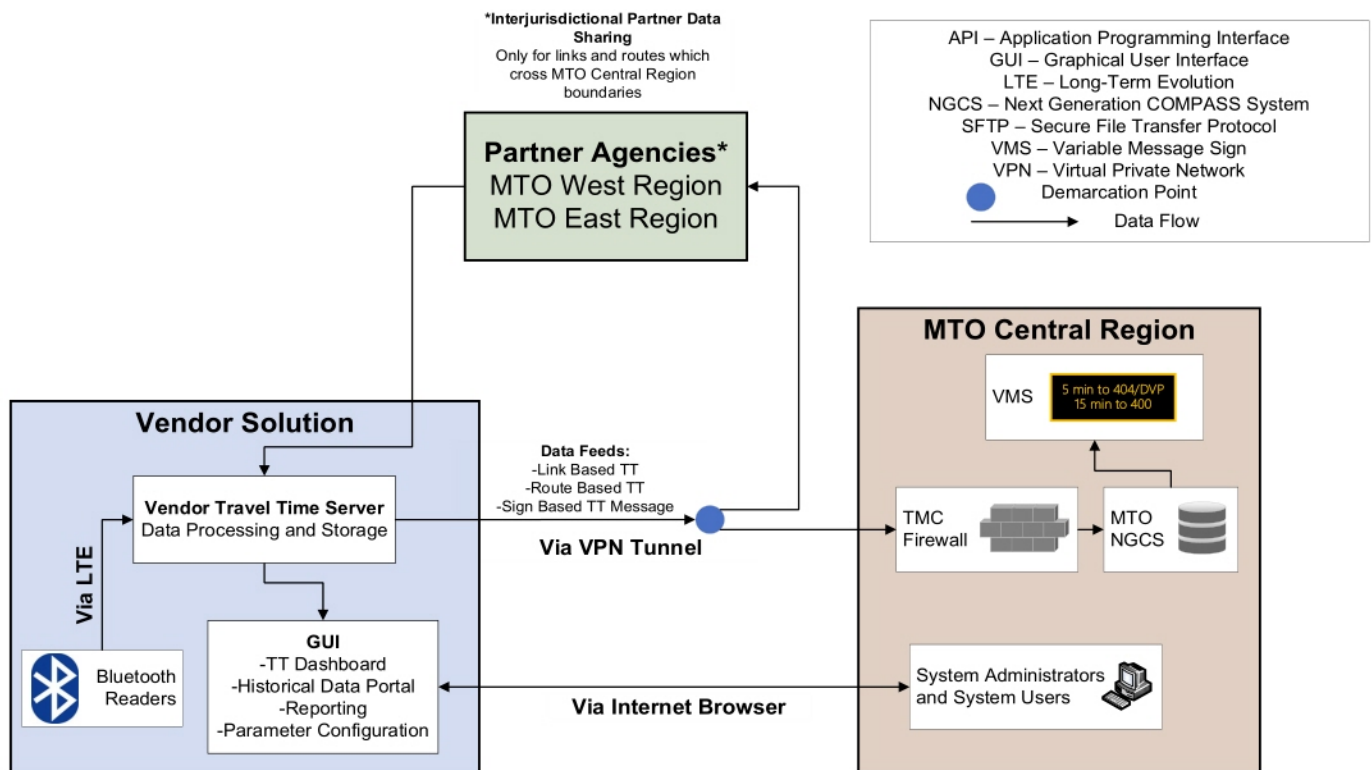
- Raw device data collected from the Bluetooth Readers shall be transmitted to the Proponent's centralized TT server;
- The server shall be responsible for processing the raw data into TT information, data storage, and hosting;

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- The server shall format the processed TT information into three (3) data feeds, in compliance with MTO data specifications:
 - Link-based TT – TT between two adjacent BT;
 - Route-based TT – TT between VMS and the displayed destination;
 - Sign-based TT message – for each destination defined for VMS.
- The server shall allow transfer of these data feeds to MTO Central Region's COMPASS System/Software through a secure channel, representing the demarcation point between the Proponent's system and MTO system. These data feeds shall also be shared with other travel time servers within MTO and partner agencies;
- The server shall subscribe to the travel time information from select partner agencies and generate travel time information for VMS in Central Region that display TT for destinations outside of Central Region. The data dictionary of the TT systems of the partner agencies shall be modified to match the data dictionary required for this Contract (see Appendix C);
- Travel time data sharing agreements with additional partner agencies may be reached during the Term of Agreement, in which case the Proponent shall collaborate with the partner agency's travel time service provider to receive and generate the travel time information for new TT destinations. This work will be paid for in accordance with Article 3, as warranted and mutually agreed between the Ministry and the Proponent.
- MTO shall be responsible for displaying travel time information on the VMS; and
- The Proponent shall provide, host, and manage a TT System Graphical User Interface (GUI) for MTO users to access.

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Exhibit 1: Travel Time System Conceptual Overview



The existing TT system must remain in operation until the new system is ready to Go-Live, as defined in Section 2.6.6.3.

Due to COVID-19 pandemic, all Proponent Staff and activities associated with execution of this Contract, shall comply with local public health guidelines in effect at the time.

2.2 General Contract Requirements

2.2.1 Contract Schedule Requirements

The following schedule constraints shall be met by the Proponent:

- Completion of System Design – three (3) calendar months from the date of Contract award;
- Completion of TT System Pilot deployment and Proof of Performance Test – six (6) calendar months from the date of Contract award;
- Completion of full TT System deployment and Proof of Performance Test – twelve (12) months from Contract award.

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The Proponent shall submit the detailed contract execution schedule compliant with the above requirements at the start of the Contract.

2.2.2 Liquidated Damages

It is agreed by the parties to the Contract that if the TT system Go-Live schedule requirement, as defined in Section 2.6.6.3, is not achieved within the specified twelve (12) month period from the Contract start date, or as extended in accordance with the terms of the Agreement, a loss or damage will be sustained by the MTO. Since it is and will be impracticable and extremely difficult to ascertain and determine the actual loss or damage which the MTO will suffer in the event of and by reason of such delay, the parties hereto agree that the Preferred Proponent shall pay to the MTO the sum of two thousand dollars (\$2,000) for each calendar days' delay in TT System delivery. It is agreed that this amount is an estimate of the actual loss to the MTO, which will accrue during the period in excess of the prescribed Go-Live date of completion. This penalty will be deducted from the Item 2 invoice due to the Preferred Proponent.

2.3 Accidental Damage

The Ministry currently operates Advanced Traffic Management Systems (ATMS) at various locations where the Bluetooth Readers are to be installed. The Proponent shall ensure not to damage any existing Bluetooth reader equipment at these locations or any of the existing ATMS installations.

In cases where the Preferred Proponent damages ATMS fibre optic cables, electrical cables or equipment, the Preferred Proponent agrees to pay to the MTO a sum of sixty thousand dollars (\$60,000). The sum shall be applied for each occurrence of such damage.

As an immediate remedy, the Preferred Proponent shall be required to make temporary splices and/or other repairs and restore operation of the ATM System as soon as possible. If any portion of the ATM System is inoperable, because of the damage caused by the Preferred Proponent, for more than four (4) hours, the Preferred Proponent agrees to pay the MTO the additional sum of ten thousand dollars (\$10,000) for each day of the downtime.

As a permanent remedy, the Preferred Proponent shall also be required to restore the ATM System to its original condition, remove the existing cables, repair the ducts and ground wire and install new cables. Cables shall be removed and installed for their full lengths between splice points without intermediate splices (full splice points in case of fibre optic cables). The damaged equipment shall be replaced with identical or approved equivalent equipment. The Preferred Proponent shall notify the Contract Administrator seven (7) days in advance of the commencement of the work. The Preferred Proponent shall retain pre-approved personnel or sub-Contractors qualified to complete the ATMS work.

All work shall be carried out using the materials, construction methods and specifications applicable to this work, currently in use by the MTO.

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The applicable sum shall be deducted from the next progress payment due to the Preferred Proponent. The MTO shall be the sole judge as to the extent of damage to the ATM System and the length of a resulting downtime when accessing the applicable sum to be deducted.

2.4 Coordination with Other Contractors in the Work Area

Other work may be in progress within or adjacent to the limits to this contract.

The Preferred Proponent shall coordinate the work with other Contractors within and/or adjacent to the contract limits to ensure that they do not perform work in the same area at the same time, or adversely affect each other's work.

The Preferred Proponent shall ensure that a minimum separation of 500 metres (m) is maintained between the operation included in this contract and the work within and/or adjacent to this contract, done by others.

The ongoing work is reflected in Appendix C on per site basis. The list of contracts was prepared based on the information available at the time of contract preparation and may not be 100% complete. In addition to the contracts listed in Appendix C, there may be Highway maintenance contracts ongoing in the construction area as shown in the table.

Area	Contract #	MTO Maintenance Supervisor	Email	Phone #
Niagara	CDMC 2017-03	Chris Arsenault	Chris.Arsenault@ontario.ca	905-536-7812
Hamilton	CDMC 2017-04	Mark Hobin	Mark.Hobin@ontario.ca	905-869-2280
Peel Halton West	CDMC 2017-07	Steve Sit	Steve.Sit@ontario.ca	905-625-3240 416-452-0360
Peel Halton East	CDMC 2017-06	Derrick Amiss	Derrick.Amiss@ontario.ca	905-625-1096 416-303-4511
Toronto	MDMC 2018-04	Blair Oddson	Blair.Oddson@ontario.ca	647-717-9072
Durham	AMC 2012-20	Fiore Ranieri	Fiore.Ranieri@ontario.ca	905-665-4976 416-709-6346
York	CDMC 2018-02	Stewart Cook	Stewart.Cook@ontario.ca	705-220-6207
Simcoe	CDMC 2020-03	Shawn Watkinson	Shawn.Watkinson@ontario.ca	705-220-3536

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The Proponent is advised that other ongoing capital contracts may take precedence over the work required under this contract as determined by the MTO RWSCU. The Proponent must account for this in their schedule and coordinate their work with other ongoing contracts. No additional payment will be made for adjustments to the work schedule by the Preferred Proponent as a result of not receiving site permit from RWSCU.

Prior to all closures of lanes and/or ramps and/or shoulders for any reason, the Preferred Proponent shall also:

1. Inform the MTO:
 - a) at least one (1) week prior to the start date, for all closures lasting less than one week.
 - b) at least two (2) weeks prior to the start date, for all closures lasting more than one week.
 - c) of all emergency closures as soon as any details are known.
2. Inform the MTO of any closure that is being canceled subsequent to 1. above.
3. Notify the MTO Central Region Road Work Scheduling and Coordination Unit (RWSCU) by web (www.mtorss.ca) with a completed Closure & Right-of-Way Usage Notification at least two (2) full business days prior to the start date of the closure. The Preferred Proponent shall log on to www.mtorss.ca at the start of the contract to obtain a valid User ID and set-up the contract information. A User ID and contact information are required before web notifications can be submitted. Please refer to the Central Region Closure and Right-of-Way Protocol for more details.
4. Notify the Roadwork Scheduling and Coordination Unit (RWSCU) by web (www.mtorss.ca) of any closure that is being cancelled.
5. Notify the MTO Compass Operations Centre by phone 416-327-8373:
 - a) immediately prior to the set-up of any closure stating the Closure Notification Number and details of the closure.
 - b) immediately of any changes to the closure or anticipated problems that may delay the opening time, stating details of the changes to and/or problems with the closure.
 - c) immediately upon removing the closure.

2.5 Design Order of Precedence

The design for all TT System elements shall be in accordance with the criteria contained in this section and the following Reference Documents available at <https://www.library.mto.gov.on.ca/SydneyPLUS/TechPubs/Portal/tp/opsViews.aspx>, and if there is any conflict, ambiguity or inconsistency between criteria contained in this

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section and any of the Reference Documents, the following shall apply in descending order of precedence to the extent necessary to resolve the conflict:

- The criteria contained in this Section;
- Electrical ATMS Contract Design, Estimating and Documentation (CDED) Manual, Volume 4 and MTO Design Drawings (MTOD);
- MTO Standard Special Provisions;
- Advanced Traffic Management Systems (ATMS) Design Guidelines;
- TVIS II Header and File Name Convention;
- Ontario Traffic Manual;
- Ontario Provincial Standards;
- Ontario Electrical Safety Code;
- Roadside Design Manual, Ontario;
- AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals;
- Designated Sources for Material (DSM);
- Electrical Engineering Manual, MTO, and
- ITS Privacy and Security Standards.

2.6 Travel Time Measurement System Technical Requirements

2.6.1 VMS and TT Routes

The list of VMS that require TT information and their designated destinations to be displayed on each VMS is provided in Appendix C. The VMS require TT for either two (2) or three (3) destinations, depending on the size of VMS or its location.

The exact message content for each destination will be provided by the Ministry to the Preferred Proponent following Contract Award.

2.6.2 Bluetooth Reader Requirements

The list of Bluetooth Readers to be supplied under this Contract and their installation requirements at each location is provided in Appendix C.

The Bluetooth Readers shall be supplied with all required equipment, housing, power provisions, mounting hardware and infrastructure, the digital cellular data services for the duration of the TT Service Contract. The Bluetooth Readers shall be maintained over the duration of the Contract.

2.6.2.1 Functional Requirements

The Bluetooth (BT) reader shall be capable of detecting Bluetooth signals and collecting device MAC addresses within a minimum range of 0m to 100m.

The Bluetooth Readers shall be a self-contained, field-hardened permanent unit consisting of Bluetooth electronics, digital cellular modem and antennas.

The Bluetooth Readers shall be housed in an unobtrusive, non-metallic weatherproof enclosure and can be padlocked. It shall be suitable for mounting on poles, wooden post or unistrut.

The Bluetooth Readers shall have an on-board removable non-volatile memory card for data storage, preferably Secure Digital format, capable of storing a minimum of one year of collected data.

The Bluetooth Readers shall include a Digital Cellular Modem and the cellular data service to support remote data reporting and real-time connectivity.

The Bluetooth Readers shall support Ethernet Interface and shall be configurable to a unique public static IP address for data communications.

The Bluetooth Readers shall not require resetting after power outage or loss of communication.

The Bluetooth Readers shall have a minimum operating range of -34°C to 70°C (-22°F to 185°F) and temperature cycles defined by the National Electrical Manufacturers Association (NEMA) TS-2 (traffic signal system) environmental conditions. The unit's ability to meet these requirements shall be verified by an independent testing laboratory.

2.6.2.2 Power at ATMS Cabinet Sites

At existing ATMS cabinet locations the Bluetooth Readers shall utilize the 120VAC supply available at the ATMS cabinet power distribution assembly. The Preferred Proponent shall supply an external power disconnect to enable isolation of the Bluetooth equipment without access to the cabinet. The Preferred Proponent shall select the size, electrical design and environmental enclosure to meet the equipment needs and the requirements of current edition of Canadian Electrical Code CSA C22.1.

The Bluetooth Readers shall be supplied with all necessary power supplies and wiring components and connect power to the Reader's power input.

The Preferred Proponent shall supply liquid tight flexible conduit and fittings to enclose all external wiring.

2.6.2.3 Power at Standalone Sites

When specified in Appendix C, Bluetooth Readers shall be supplied with a solar power supply assembly to provide continuous, year-round operation of Bluetooth Reader and cellular communication device without external power supply.

The Proponent shall design the solar power supplies to meet the operation requirements of the Bluetooth Reader and the cellular communication device. The solar power supply shall meet the following requirements unless equivalent alternative is demonstrated in the Proponent design:

- a) The Bluetooth Reader shall be designed to operate continuously on solar power and deep cycle gel cell or AGM (absorbed glass mat) batteries.
- b) The Proponent shall supply appropriate solar panels, batteries, charging control device, and other components as required to continuously power the Bluetooth Reader with solar energy. All components shall be suitable for pole mounting and shall be supplied with all required wiring, conduits, enclosures and mounting hardware.
- c) The solar power system components shall be secured in a manner to minimize the potential for theft.
- d) A charging control device shall be utilized to protect the solar array from overcharging the batteries. The fully charged deep cycle battery pack shall be capable of powering the local Bluetooth reader (including associated components) for seven (7) consecutive days, twenty-four (24) hours a day.

The solar power supply design shall be submitted as part of the Material Selection Approval process as defined in SP 168F14 prior to field installation and shall demonstrate the ability to support power load of the equipment.

2.6.2.4 Grounding

When specified in Contract Documents, installation of electrical grounding equipment shall conform to OPSS 609 and all standards referenced within.

2.6.2.5 External Cable Access Enclosure for Existing ATMS at pad mounted Cabinets

At locations where, external cable access enclosure is not present, as noted in Appendix C, the Proponent shall supply and install the new enclosure according to the requirements specified in this section.

The external cable access enclosure shall be made of 3.175 millimetres (mm) thick aluminum with a polyester powder coat matching the cabinet material and colour. The

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enclosure dimension shall not exceed 305 mm W x 200 mm H x 100 mm D.

The enclosure shall have three (3) 19 mm holes to provide access for cables of 10 mm in diameter and be able to accommodate one (1) cable with a 12.5 mm connector. Space around the access holes shall allow for the installation of liquid-tight connectors. The enclosure shall be shipped from the factory with all access holes securely plugged with rubber type fittings designed for cable entry.

The door to the enclosure shall have a stainless-steel hinge on one (1) side and be configured with an internal catch that provides access from inside the cabinet only. An external locking mechanism for the enclosure shall not be provided.

The enclosure door shall not interfere with liquid tight connectors when closed. The enclosure shall be sealed to provide a NEMA 4 rating.

The following supplier have provided External Cable Access Enclosure for existing ATMS cabinets:

- Novax Industries Corporation

At any time where the Proponent introduces a hole for entry in existing controller cabinet, the Proponent shall supply a weather tight knockout filler that is to be stored in the cabinet for future use.

2.6.2.6 Controller Cabinet Identification Label

At all locations where the Unistrut obstructs the existing cabinet identification plate or where plate is damaged or missing, a new cabinet identification plate shall be supplied and installed as shown in Appendix C. The ID plate shall be a standard 200mm x 600mm metal blank with 90mm black letters FHWA Series B2001CA font. The ID plates shall be installed on the side of cabinet facing traffic such that it can be easily seen from the highway.

Nameplates shall be fastened with four stainless steel self-tapping screws, with 'Robertson' No. 2 (red) heads. The nameplate information shall be confirmed to be in accordance with Appendix C prior to manufacturing of the nameplates.

The name plate shall contain the full 12 characters of the Universal Identifier including the highway name (Example: 401CW0720GER).

2.6.2.7 Sectional Steel Poles, Direct Buried

When specified in Appendix C, Bluetooth Readers shall be mounted on sectional steel poles.

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The sectional steel poles are to conform to OPSS 615 and all standards referenced within. The height of the sectional steel pole shall be able to accommodate the mounting height required for the Bluetooth Reader, auxiliary equipment and the burial depth.

2.6.2.8 Construction

The Bluetooth Readers shall be installed at locations listed in Appendix C according to the identified installation method, typical installation details and site requirements. All general and site-specific requirements for site access, traffic control, environmental and other requirements or restrictions shall be complied with. The Proponent may submit alternative designs or installation methods for approval by the Ministry. Such approval must be received prior to undertaking the work.

The Bluetooth Readers and all associated components shall be securely mounted to the poles or unistrut to withstand its own load, winter ice and wind loading in the installation area. The Proponent shall propose additional stabilization, as warranted by the equipment size and weight, to avoid damage to existing ATMS cabinets or other ATMS equipment.

2.6.2.8.1 At Cabinet Installation

The Bluetooth Readers shall be mounted on a double unistrut with mounting height and orientation according to manufacturer recommendations.

The unistrut steel channels shall be securely fastened to existing controller cabinet with heavy duty flat square washer, galvanized bolts and spring units. Additionally, the unistruts shall be anchored to the concrete pad. Proponent shall propose additional stabilization, as warranted by the equipment size and weight to avoid damage to existing ATMS equipment.

If existing wooden post on cabinet is present with equipment mounted on it, the new Bluetooth reader and respective infrastructure shall be mounted on the existing wooden post, ensuring no damage or interference to the operation of existing equipment.

At all sites where there is no controller cabinet identification label, or the installation of a unistrut covers the existing label, a new controller cabinet identification label shall be mounted on a steel plate fastened to the Unistrut as defined in Section 2.6.2.6.

2.6.2.8.2 At Pole-mounted Cabinet Installation

The Bluetooth Readers and all associated equipment shall be mounted to existing sectional steel poles or existing Variable Message Sign support column at mounting height and orientation according to manufacturer recommendations.

The Bluetooth cable from the waterproof power supply enclosure to the Bluetooth Reader enclosure shall be contained within a watertight flexible conduit.

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At any locations where a hole for entry to an existing pole mounted controller cabinet is introduced, a weather tight knockout filler shall be supplied and stored in the cabinet for future use.

2.6.2.8.3 Standalone Installation

The Bluetooth Readers shall be mounted on sectional steel poles at mounting height and orientation according to manufacturer recommendations.

A weatherproof enclosure for Bluetooth, power supply, battery enclosure and solar panels shall be mounted on the sectional steel pole as per typical installation details in Appendix C and manufacturer recommendations.

The power supply enclosure shall be grounded in accordance with equipment requirements and the Electrical Safety Code.

All external cables shall be contained within a watertight flexible conduit.

2.6.3 Removal of Existing MTO Bluetooth System

The existing MTO Bluetooth System shall be operational until the new TT system installed by the Preferred Proponent has passed all testing phases and has been approved for Go-Live operation.

Prior to undertaking the removal of the existing Bluetooth units, the Preferred Proponent shall obtain a written permission from the Ministry to proceed with the removal. The Ministry will provide direction if any of the existing units are to be excluded from removal or if any of the units will be salvaged, at the time of the request.

The existing Bluetooth equipment and all associated infrastructure components as listed in Appendix C shall be removed, except the support structures being used for the new deployment, specifically the wooden posts at existing controller cabinets. Where the removal of existing mounting structures and equipment leaves openings in the controller cabinet, they must be filled with weather tight stainless-steel bolts and washers.

2.6.4 Network and Security

The Proponent shall host a Network Time Protocol (NTP) solution to accurately synchronize time between the MTO systems, the TT System, and the BT Readers.

Data exchange between the MTO Central systems shall be encrypted and secured through an Internet Protocol Security (IPSec) Virtual Private Network (VPN) Tunnel.

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The Proponent's IT infrastructure shall comply the Ministry's security standards and procedures, including those relating to the prevention/detection of fraud and misappropriating access of the Ministry networks.

The Proponent shall cooperate with the MTO to establish the system design that is compliant with the MTO standards and implement changes over the duration of the Contract if these requirements are updated.

2.6.5 Software Requirements

This section defines the software and data requirements for the TT System. Each subsection consists of a table of indexed specifications for the software.

2.6.5.1 General System Overview

Item No.	Requirement
1.1	The Solution shall receive raw data from Bluetooth Readers deployed in the field.
1.2	The Solution shall process the raw data into travel time information as per the MTO defined formats.
1.3	The Solution shall publish the travel time information as secured data feeds.
1.4	The data feeds shall be made accessible to MTO through a secure data transmission channel.
1.5	The Solution shall publish the travel time information as a secured public API for future system integration and data sharing within MTO and with other jurisdictions specified by MTO.

2.6.5.2 System Configuration and Operations

Item No.	Requirement
2.1	The Solution shall be configured to operate using the metric system of measurement.
2.2	The Solution shall be scalable to accommodate the future expansion of the TT System, including geographic expansion, and the addition of Readers, routes, and VMSs, by continuing to provide the same level of service. Details of future hardware expansions are described in Section 8.
2.3	The Solution shall operate and publish real-time travel time data feeds continuously (i.e. 24/7, 365 days).

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Item No.	Requirement
2.4	The Solution shall have a continuous monthly uptime of at minimum 99% outside of any scheduled and routine maintenance.
2.5	The Solution shall have backup or redundancy procedures in place in order to resume normal operations upon system failure.
2.6	The Proponent shall provide remote access to the TT System Graphical User Interface (GUI) to authorized MTO users in a secured manner.
2.7	The GUI shall be compatible with Microsoft Edge Version 88 or later, and Google Chrome Version 79 or later.
2.8	At minimum, the GUI shall consist of the following four (4) modules: <ul style="list-style-type: none"> • Travel Time Dashboard (see Section 2.6.5.6); • Historical Data Portal (see Section 2.6.5.5.5); • Reporting System (see Section 2.6.5.7); and • System Parameter Configuration (see Section 2.6.5.10).
2.9	The GUI shall be able to accommodate simultaneous operations by at least ten (10) concurrent users, with no adverse effects.
2.10	The GUI shall comply with the Accessibility for Ontarians with Disabilities Act (AODA).
2.11	The GUI shall comply with the Web Content Accessibility Guidelines (WCAG) 2.1.

2.6.5.3 User Access, Security, and Privacy

Item No.	Requirement
3.1	All end-to-end services of the TT System shall comply with the latest Government of Ontario Information Technology Standards (GO ITS) security requirements.
3.2	All end-to-end services of the system shall comply with the guidelines described in the Freedom of Information and Protection of Privacy Manual published by the Government of Ontario.
3.3	The Proponent shall limit all accesses to the Solution to authorized individuals identified by MTO during the Term of Agreement.
3.4	User access privileges shall be definable on a functional level. This shall allow for different levels and roles of users to access system features and functions.

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Item No.	Requirement
3.5	User access privileges shall be definable by MTO and managed by the Proponent during the Term of Agreement.
3.6	<p>The user access privileges shall be categorized, as a minimum, as:</p> <ul style="list-style-type: none"> • System Administrators (Service Provider) – shall have full access to the system as well as the capability for maintaining user account passwords and privilege levels • System Administrators (Client) – shall have access for monitoring real-time and historical travel time information, reporting, and system parameter configuration as well as the capability for maintaining user account privilege levels; • System Operators – System access for monitoring real-time, historical travel time information, and reporting. Access can be limited to a geographic area, with Report Only privileges on the remaining network; • System Report Only – Capable of viewing the system and viewing/printing reports.
3.7	The Proponent shall collaborate with MTO to establish a site-to-site IPsec VPN tunnel between the system and MTO firewall.
3.8	<p>The VPN tunnel shall use secure channels to transmit data feeds, including but not limited to:</p> <ul style="list-style-type: none"> • Hypertext transfer protocol secure (HTTPS); and • Secure file transfer protocol (SFTP).

2.6.5.4 Device Integration

Item No.	Requirement
4.1	Each Bluetooth reader shall be assigned a unique ID value for identification purposes by the Solution, which shall match the Bluetooth reader's ID assigned by MTO (see Appendix C).
4.2	Each VMS shall be assigned a unique ID value for identification purposes by the Solution, which shall match the VMS's ID assigned by MTO (see Appendix C).
4.3	Bluetooth reader operational failures and losses of communication with the Solution shall be automatically logged for reporting and auditing purposes.

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Item No.	Requirement
4.4	Data stored internally on a Bluetooth reader collected in the event of an interruption of communications with the Solution (see Section 2.6.2), shall be automatically transferred and loaded into the Solution once communications are restored.
4.5	The Solution shall be capable of configuring Bluetooth reader settings, including: <ul style="list-style-type: none"> • Bluetooth reader ID as assigned by MTO; • System-related functions, including data storage, and user authentication; • Network-related parameters, including IP address, netmask, and gateway; • Time synchronization between the travel time server and Bluetooth Readers; and • Other features required to make the Proponent's Bluetooth Readers operational.
4.6	The Solution shall clear alerts for weather conditions detected within configurable time interval from first identification of clearance condition. During the Design stage, the successful Proponent shall work in collaboration with the Owner to determine a configurable range for the time interval.
4.7	The Solution shall record details of any Bluetooth device configuration changes.
4.8	The Media Access Control (MAC) IDs of all captured Bluetooth-enabled devices shall be encrypted automatically based on industry standard encryption and privacy requirements.

2.6.5.5 Data Requirements**2.6.5.5.1 Data Collection**

Item No.	Requirement
5.1.1	The Solution shall be configured to collect and process data from all Bluetooth Readers deployed by the Proponent under this Contract.
5.1.2	The data processing time between receiving raw data into the Solution and processing travel time information shall not be greater than one (1) second.

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2.6.5.5.2 Data Processing

Item No.	Requirement
5.2.1	The Solution shall support all data processing procedures required for the development of travel time information.
5.2.2	The travel time for a route shall be calculated using the travel times of the links that make up the route.
5.2.3	The Proponent shall automatically infill route travel time information in the event of an origin Bluetooth reader failure.
5.2.4	The Proponent shall automatically infill route travel time information in the event of an intermediate Bluetooth reader failure.
5.2.5	The Proponent shall automatically infill route travel time information in the event of a destination Bluetooth reader failure.
5.2.6	The Solution shall be capable of filtering data to remove anomalies, outliers, and encrypted MAC IDs unmatched to a destination using robust statistical methods.
5.2.7	Processing statuses and conditions, including recalculation, anomalies, and unmatched encrypted MAC IDs, shall be recorded with the processed data to support post-mortem analysis.

2.6.5.5.3 Data Feed Configuration

Item No.	Requirement
5.3.1	The Solution shall generate three (3) real-time secured data feeds: <ul style="list-style-type: none"> • Link-based TT – TT between two adjacent BT; • Route-based TT – TT between VMS and the displayed destination; and • Sign-based TT message – for each destination defined for VMS.
5.3.2	The Proponent shall construct these data feeds in compliance with MTO data specifications provided in Appendix C.
5.3.3	The link-based travel time data feed shall be in XML format.
5.3.4	The link-based travel time data feed shall be encoded in UTF-8 format.
5.3.5	The route-based travel time data feed shall be in XML format.

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Item No.	Requirement
5.3.6	The route-based travel time data feed shall be encoded in UTF-8 format.
5.3.7	The sign-based travel time message data feed shall be in XML format.
5.3.8	The sign-based travel time message data feed shall be encoded in UTF-8 format.
5.3.9	The Proponent shall define data timeout limits signifying whether a travel time measurement is recent and representative of real-time conditions.
5.3.10	Multiple data timeout limits shall be configurable to support differences in traffic patterns between rural and urban areas.
5.3.11	The default user-specified data timeout limit shall be two (2) minutes.
5.3.12	<p>The Solution shall automatically determine whether a VMS message is “valid” for a given time period. A message is “invalid” if one of the following occurs:</p> <ul style="list-style-type: none"> • Route travel time information is unavailable (including but not limited to loss of communication, or no device matches); or • If the timestamp of the route travel time information provided exceeds the user-specified data timeout limit.
5.3.13	<p>The Solution shall allow MTO to define a configurable, pre-specified time period, during which MTO will publish route travel time messages on VMSs. The initial default time period shall be:</p> <ul style="list-style-type: none"> • Weekdays (Monday to Friday) – 6:00am to 10:00am, 3:00pm to 8:00pm; and • Weekends (Saturday and Sunday) and statutory holidays – 9:00am to 12:00pm, 5:00pm to 9:00pm.
5.3.14	The Solution shall have the ability to identify real-time route travel time as slow traffic condition as per MTO definition.
5.3.15	The slow traffic condition shall be configurable in the Solution.
5.3.16	As a default, slow traffic shall be defined as two (2) times the free-flow travel time (i.e. travel speed is half of the speed limit).
5.3.17	The refresh rate of the secured link-based travel time data feed shall be no longer than one (1) minute.
5.3.18	The refresh rate of the secured route-based travel time data feed shall be no longer than one (1) minute.

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Item No.	Requirement
5.3.19	The refresh rate of the secured sign-based travel time message data feed shall be no longer than one (1) minute.

2.6.5.5.4 Data Storage and Archiving

Item No.	Requirement
5.4.1	Data shall be hosted and stored by the Proponent within Canada utilizing cloud-based solution, outside of MTO premises.
5.4.2	Historical aggregated travel time information shall be stored and accessible to users for the duration of the Contract.
5.4.3	The aggregation period of historical aggregated travel time information shall be at least every five (5) minutes.
5.4.4	<p>Stored aggregated travel time information shall include at minimum:</p> <ul style="list-style-type: none"> • Link; • Route; • Travel time; • VMS ID; • Number of encrypted MAC ID matches; and • VMS messages from the generated sign-based TT message XML feed.
5.4.5	VMS message archives in the stored aggregated travel time information shall include information traceable to the underlying VMS ID, defined routes on a specific VMS, assigned links, and Bluetooth reader's aggregated recorded data for future analysis, as well as retroactive diagnostic capabilities.
5.4.6	The Proponent shall store a minimum of six (6) months of historical raw data for auditing purposes, including individual timestamped encrypted MAC ID records with their associated Bluetooth Readers.

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2.6.5.5.5 Historical Data Access

Item No.	Requirement
5.5.1	All historical data access and querying by users, or by user request to the Proponent, shall be done through use of the GUI historical data portal module.
5.5.2	<p>The data portal screen shall provide, at minimum, the following selection criteria for data querying:</p> <ul style="list-style-type: none"> • Time period type (single, continuous or recurring); • Time period (time of day, day of week, time of year); • Location (All locations, a specific region or zoomed area, selected routes); and • Field hardware (selected VMSs and Bluetooth Readers).
5.5.3	The historical data portal shall be accessible remotely by MTO users.
5.5.4	Historical data shall be readily accessible to MTO users within five (5) minutes of travel time information publishing.
5.5.5	VMS messages shall be included in queries of field hardware and location for auditing and accuracy checking purposes.
5.5.6	Users shall be able to query travel times of routes over a specified time period.
5.5.7	Users shall be able to query travel times of routes by recurring time periods, including but not limited to specific days of the week over a specified number of weeks.
5.5.8	Each link travel time query shall include individual check-in and check-out timestamps of the Bluetooth pair forming the link, and the calculated travel time for each encrypted MAC ID.
5.5.9	Each route and link travel time query shall include the travel time average, maximum, and minimum values over the records in the query.
5.5.10	Each route and link travel time query shall show the number of matched and unmatched records in that time period.
5.5.11	Each route and link travel time query shall display the MTO-assigned IDs of the origin and destination Readers.
5.5.12	Each route and link travel time query shall include the MTO-assigned ID of the query's selected routes and links.
5.5.13	Each route and link travel time query shall include the MTO-assigned VMS ID of any sign that displays information for the route.
5.5.14	The data portal shall be able to query historical data for any Bluetooth reader or VMS, based on its unique MTO-assigned Bluetooth or VMS ID.

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Item No.	Requirement
5.5.15	Queries of Bluetooth Readers shall include individual encrypted MAC ID records with check-in and check-out timestamps for the Bluetooth pairs.

2.6.5.5.6 Data Ownership

Item No.	Requirement
5.6.1	MTO shall own all data, including aggregated and archived data.
5.6.2	The Proponent shall perform a regular data dump to MTO. MTO to provide the Proponent with details on frequency of these data dumps and which data to include. Data to include at minimum processed travel time data for all links and routes in Central Region.

2.6.5.6 Travel Time Dashboard

Item No.	Requirement
6.1	The GUI shall provide a dashboard for MTO to access real-time travel time and hardware (Bluetooth reader, VMS) information.
6.2	The dashboard shall include a map view.
6.3	The dashboard shall include a map view.
6.4	The dashboard shall provide information on travel time index (TTI) for links and routes. $TTI = TT \text{ (real-time)} / TT \text{ (free-flow)}$
6.5	The dashboard shall provide information on buffer time index (BTI) for links and routes. $BTI = (TT \text{ (95}^{th} \text{ percentile)} - TT \text{ (real-time)}) / TT \text{ (real-time)}$
6.6	The dashboard shall provide information regarding the number of matched encrypted MAC ID records for a specified link, route, and time period.
6.7	The dashboard table/graphical view shall default to displaying VMSs and their associated route destinations and their most recent travel time information and the associated date/time stamp information for each VMS TT message.
6.8	The dashboard table/graphical view shall have the capability of listing historical route travel times and messages.

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Item No.	Requirement
6.9	The dashboard table/graphical view shall have the option to tabulate travel time routes, displaying their associated Bluetooth Readers, travel times, and historical travel times.
6.10	The dashboard table/graphical view shall have the option to tabulate Bluetooth Readers, and display the associated routes, real-time travel times, and historical travel times.
6.11	The dashboard base map shall be up-to-date, and shall be based on Google Maps, Bing Maps, or equivalent.
6.12	The base map shall be updated annually, and/or when a new section of highway is open within MTO jurisdiction.
6.13	The Proponent shall be responsible for obtaining and renewing the map license.
6.14	The dashboard map shall be used to display travel times as coloured lines overlain on roadways.
6.15	The dashboard map view shall default to displaying MTO Central Region. The map view shall include functionality to configure zoom and focus to suit display size.
6.16	All MTO roadways included in the TT System shall be labelled by default.
6.17	The dashboard map shall include an option to display a map of individual municipalities within Ontario.
6.18	The dashboard map shall include an option to display a map of other MTO Regions and the full province of Ontario.
6.19	The dashboard map shall include a zoom feature to display a selected area of the province of Ontario.
6.20	The dashboard map shall be able to display the locations of TT System components, including Bluetooth Readers, VMSs, and routes.
6.21	The dashboard map shall default to showing real-time travel time information on its routes. Data shall be refreshed every one (1) minute.
6.22	The dashboard map shall be able to display historical travel time if desired by the user.

2.6.5.7 Reporting System

Item No.	Requirement
7.1	The GUI shall consist of a user-accessible reporting system.

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Item No.	Requirement
7.2	<ul style="list-style-type: none"> • The GUI shall consist of a user-accessible reporting system. Reads (number of Bluetooth-enabled devices detected at each Bluetooth reader); • Matches (number of matched encrypted MAC IDs for any pair of Bluetooth Readers); • Instances of “slow traffic” in the sign-based TT message XML feed (see Item 5.3.14 in Section 2.6.5.5.3); • Validity of VMS messages in the sign-based TT message XML feed (see Item 5.3.12 in Section 2.6.5.5.3); • Bluetooth reader health and a log of trouble tickets; • Bluetooth reader communications disruptions; • Travel Time (for any route configured in the system); and • Origin-Destination patterns.
7.3	The reporting system shall be able to report on any user-specified historical time period and location.
7.4	<p>The reporting system shall allow users to generate and display, as a minimum, the following comparisons of travel time information in graph and chart form:</p> <ul style="list-style-type: none"> • Comparison of raw data reads from two or more Bluetooth Readers for a specific time period; • Comparison of travel time between two or more specified time periods for a specific link or route; and • Comparison of travel time between two or more routes for a specific time period. Output shall be customizable.
7.5	The reporting system shall be able to present data distributions of travel times for a specified time period and location.
7.6	<p>The reporting system shall have the ability to generate reports based on ad-hoc queries, including but not limited to:</p> <ul style="list-style-type: none"> • Selection of any Bluetooth reader to generate reports of detected Bluetooth-enabled device counts (reads) at any date; and • Selection of any two routes to generate and display differences in the number of matches and travel time for a selected time interval.

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Item No.	Requirement
7.7	The reports from the reporting system shall be generated in a printer-friendly and clearly organized format.
7.8	The reports shall be exportable in CSV file format.
7.9	The reports shall be exportable in XML file format.
7.10	The reports shall be exportable in PDF file format.
7.11	<p>The reporting system shall automatically generate the following reports on a daily, weekly, and monthly basis, and archive these reports:</p> <ul style="list-style-type: none"> • Ranking of routes by average speed; and • Ranking of routes by average travel time per kilometre.
7.12	Reports generated shall be automatically forwarded by email to a pre-set list of users compiled by the System Administrator.

2.6.5.8 Partner Data Sharing

Item No.	Requirement
8.1	Data feeds generated by the solution shall be sharable with partners as defined by MTO.
8.2	<p>The Solution shall share the data feeds with MTO West Region and East Region for its links which cross into Central Region jurisdiction. These data feeds shall match the format presented in Appendix C.</p> <p>MTO to provide a list of these locations following Contract award.</p>
8.3	<p>The Solution shall integrate with MTO West Region's and East Region's TT System in order to receive relevant shared data feeds.</p> <p>MTO to provide a list of these locations following Contract award.</p> <p>West Region's and East Region's data feeds follow the data dictionaries outlined in Appendix C.</p>
8.4	The Solution shall operate with other link-based TT for route-based and sign-based TT measurement and shall be able to add TT from data feeds received from other jurisdictions (MTO West Region and East Region) to TT generated by the Solution's central software to complete TT routes which span the two jurisdictions.

2.6.5.9 System Maintenance

Item No.	Requirement
9.1	The Proponent shall be responsible for all maintenance of the Solution during the Term of Agreement.
9.2	All scheduled and routine maintenance performed by the Proponent must be done outside the pre-specified time period for VMS message publication, as specified in Item 5.3.13 in Section 2.6.5.5.3.
9.3	In the event the Proponent makes any changes to its processes or methodologies during the Term of Agreement, including but not limited to data collection, processing methodology, storage, hosting, or cybersecurity, the Proponent shall inform MTO in detail of these changes in advance. Prior to these changes, the Proponent shall provide documentation to demonstrate that these changes comply with the specifications of this Agreement. MTO to test and approve these changes at their discretion.
9.4	The Proponent shall keep the Solution up to date with the latest available software updates for the duration of the Term of Agreement.
9.5	The Proponent shall provide all bug patches to the Solution upon development.
9.6	The Proponent shall refer to the SLA for operational procedures to process maintenance requests by MTO.

2.6.5.10 System Parameter Configuration

Item No.	Requirement
10.1	All system parameter configuration by users, or by user request to the Proponent, shall be done through use of the GUI system configuration module.
10.2	The system configuration module shall be able to perform device configuration changes described in Section 2.6.5.4.
10.3	The system configuration module shall be able to add, modify, and delete Bluetooth Readers.
10.4	The system configuration module shall be able to define and configure routes by combining multiple links together and pairing Bluetooth Readers to VMSs.
10.5	The system configuration module shall be able to configure the data feed refresh rate.
10.6	The system configuration module shall be able to configure the outlier filtering algorithm.

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Item No.	Requirement
10.7	The system configuration module shall be able to configure the pre-specified time period for VMS message publication.
10.8	The system configuration module shall be able to configure the slow traffic condition.
10.9	The system configuration module shall be able to configure the data timeout duration.
10.10	The system configuration module shall be able to configure the map display, including placing Bluetooth Readers on the map, drawing routes, and defining travel time thresholds to change route colours.
10.11	For auditing purposes, the Solution shall record details of any changes to the above parameters.
10.12	The Proponent shall refer to the SLA for operational procedures to process requests by MTO to make changes to the service configurations listed above.
10.13	The Proponent shall back-up the parameters of the existing TT System configuration, including but not limited to properties and locations of all BT Readers, routes, links, and VMS messages. Parameter configuration back-ups shall be saved in an accessible file.
10.14	The Solution shall automatically send the configuration file (listed in Item 10.13) detailing the current system configuration to MTO on the last business day of every month.
10.15	The Solution shall automatically send the configuration file (listed in Item 10.13) detailing the current system configuration to MTO on the last day of the Term of Agreement.

2.6.5.11 System Performance and Diagnostics

Item No.	Requirement
11.1	The Solution shall be capable of sending email alert notifications to pre-configured recipients in the event that the system availability has dropped below a threshold in a given day or week.
11.2	The Solution shall generate daily, weekly, and monthly reports on the status of the Readers, including field hardware health and communications status.
11.3	The Solution shall monitor the status of the Bluetooth Readers in real-time.
11.4	The Solution shall display information regarding the status of Bluetooth Readers on a dedicated screen accessible from the GUI containing, at minimum, the MTO-assigned ID of the reader, IP address of the reader, and the last time data was received from the reader.

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Item No.	Requirement
11.5	The Solution shall be capable of sending email alert notifications to pre-configured recipients in the event that a reader loses communication with the Solution.
11.6	The Solution shall be capable of sending email alert notifications to pre-configured recipients in the event that configured link or route speed thresholds are exceeded.

2.6.6 Acceptance, Testing, and Training

The Proponent shall be responsible for developing a Test Plan in accordance with the testing requirements of this section. The components of the Testing Plan are discussed in detail in this section, and a general overview of the order of testing, training, and the steps taken after system acceptance can be seen in Exhibit 2.

The Test Plan shall outline a two-stage deployment plan for the Bluetooth Readers. For initial testing the Proponent shall deploy and conduct the testing of the following routes or propose equivalent routes that would include a continuous set of Bluetooth readers forming a travel time route. The number of Bluetooth readers proposed shall be at least 5% of the total number of BT readers in the Contract:

VMS ID	Destination		
401VW0020VES	401/400	401/Allen Rd	401/Yonge St
401VE0030VWE	401/Keele St	401/Islington Ave	401/Dixon Rd

Below is the list of associated Bluetooth Readers:

Bluetooth ID	Latitude	Longitude	Location Description
401IW0060IWO	43.69276	-79.56918	401/Dixon Road
401IW0050IWO	43.70958	-79.55407	401/Islington Avenue
401IW0045IEO	43.70917	-79.55035	401/Islington Avenue
401IW0040IWO	43.71440	-79.53424	401/Weston Road
401IW0030IEO	43.71573	-79.52192	400/401
401IW0025IWO	43.71710	-79.51729	400/401
401IW0020IEO	43.71636	-79.51599	400/401
401IW0010IEO	43.71695	-79.51055	401/Jane Street
401IE0005IWO	43.72346	-79.47981	401/Keele Street
401IE0010IEO	43.72643	-79.46297	401/Dufferin Street
401IE0015INO	43.72336	-79.44662	401/Allen Road
401IE0030IWO	43.73306	-79.44065	401/Allen Road
401IE0040IEO	43.73652	-79.43190	401/Bathurst Street
401IE0050IEO	43.74127	-79.42400	401/Avenue Road
401IE0060IWO	43.75517	-79.40648	401/Yonge Street

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The initial test of the TT Service utilizing the Bluetooth Readers deployed in the Pilot Stage shall demonstrate full compliance of the supplied TT Service with the System specifications. The Proponent shall make design changes or adjustments, if necessary, to achieve written MTO acceptance of the Pilot deployment, before proceeding with deployment of the remaining Bluetooth Readers (Full Deployment).

Acceptance of the Pilot Stage does not void the testing and acceptance requirements of the complete system (Full Deployment).

As part of the Test Plan, the Proponent shall provide a traceability matrix to identify which features and functions specified in this document are verified for each test procedure. In addition to the submission of the Test Plan, the Proponent shall also provide MTO with a high-level schedule for conducting testing and training for the Pilot Stage and Full Deployment, as well as supporting documentation for the TT System, including but not limited to system configuration and training documentation, and product information documents.

The Proponent shall allocate three (3) weeks in the schedule for MTO to review and provide feedback and questions regarding the Test Plan, schedule, and supporting documentation. The Proponent shall allocate one (1) week to revise these documents and address additional questions and concerns from MTO before the final submission. The testing details are specified as follows:

- At least six (6) weeks prior to any testing, the Proponent shall submit a Test Plan with detailed procedures to MTO for review and approval.
- The Test Plan shall include detailed testing plans regarding:
 - Pre-Installation Testing (PIT) that provides a description of the tests that the Proponent shall perform to demonstrate the functionality of the Bluetooth Readers and respective components upon manufacturing;
 - Proof of Performance (POP) that provides a description of the tests that the Proponent shall perform to demonstrate successful installation of all individual Bluetooth reader hardware and software products required for the TT System;
 - System Integration Testing (SIT) that details the methodologies of how the Proponent shall test integration functionalities of components of the TT System, including but not limited to field devices, software, and the VPN tunnel;
 - Pilot Demonstration Testing (PDT) and System Acceptance Testing (SAT) that detail how the Proponent's TT System will demonstrate that it is fully functional following the Pilot Stage and Full Deployment respectively. PDT shall prove that software components and Bluetooth Readers installed in the Pilot Stage are compliant with all system requirements, fully functional and accurate before proceeding

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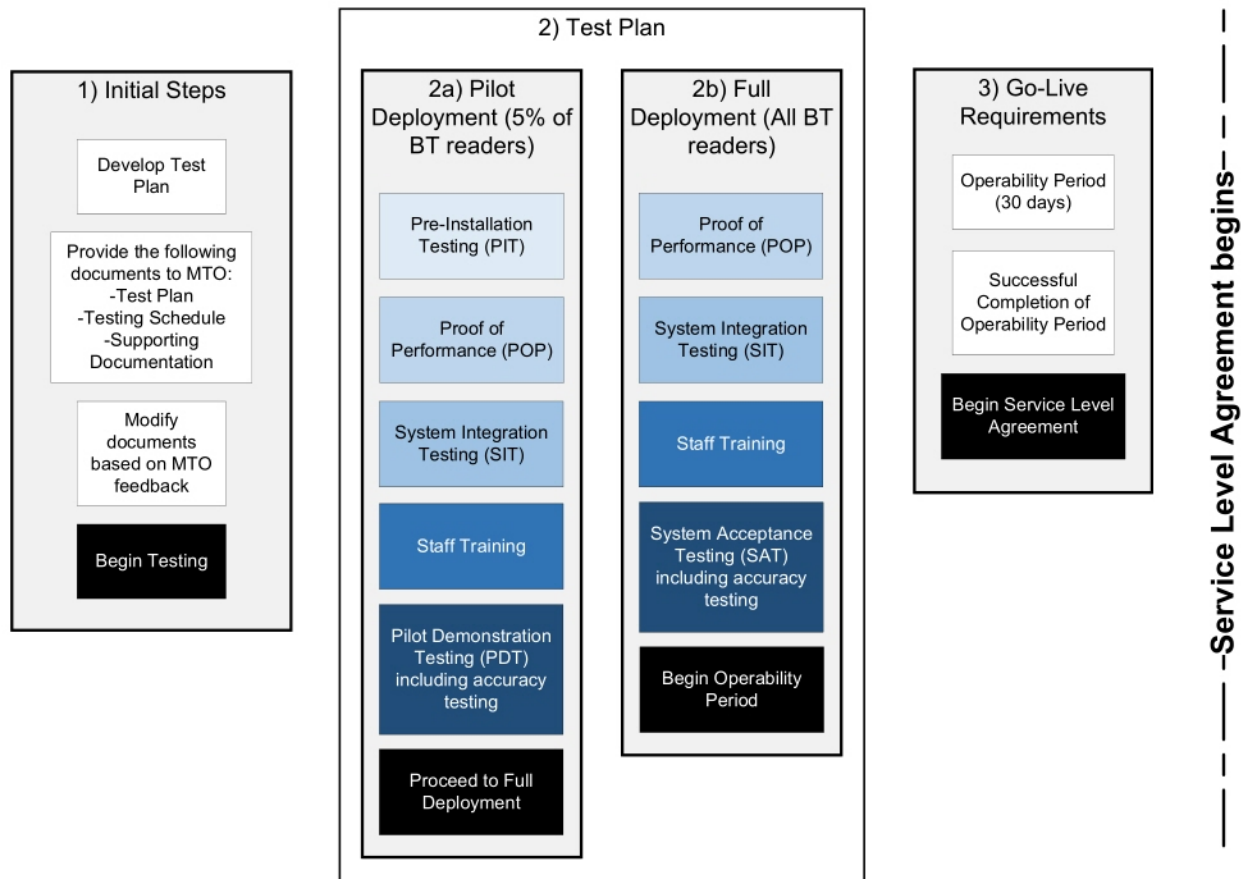
to Full Deployment of Bluetooth Readers. SAT shall demonstrate that TT System is fully functional, accurate and ready for MTO acceptance and Go-live operations.

- The Proponent shall provide MTO with documentation and justification for any modifications to the TT software after PDT is completed.
- For requirements that cannot be verified through testing, compliance shall be provided by the Proponent through written documentation or certificates.
- In addition to testing requirements, the Test Plan shall discuss training for MTO users in preparation of system acceptance;

The Service Level Agreement shall begin following successful completion of the Operability Period.

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Exhibit 2 - Overview of TT System Testing, Training, Acceptance, and Go-Live Requirements



2.6.6.1 Testing Requirements

General requirements for testing are as follows:

- All features and functionality specified in this document shall be fully tested by the Proponent;
- All testing shall be subject to inspection or auditing by MTO;
- PDT and SAT testing shall be conducted at the MTO Central Region COMPASS Transportation Management Centre (CRCTMC) or at MTO's designated facility in the GTHA;
- If testing is required away from MTO facilities, the Proponent shall formulate a written agreement with MTO staff for off-site testing or virtually through webinars;
- The Proponent shall supply and install equipment and services to meet the requirements detailed in this document;
- Prior to any testing, the Proponent shall verify and confirm that all items interfacing to existing equipment are in acceptable condition;
- The system shall only be accepted once the following occurs:

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- Proof of Performance and System Integration Testing have been successfully demonstrated to the satisfaction of MTO first at the Pilot Stage, then at Full Deployment;
- All staff training is complete;
- System Acceptance Testing has been successfully completed to the satisfaction of MTO;
- All required documentation has been submitted to and accepted by MTO; and
- Notification of Final Acceptance shall be provided by MTO in writing.

2.6.6.1.1 Pre-Installation Testing (PIT)

The Proponent shall provide standard testing documentation for its off-the-shelf Bluetooth Readers and associated field infrastructure components.

2.6.6.1.2 Proof of Performance (POP)

The Proof of Performance plan shall demonstrate that all core functionalities of all individual components to the TT System are properly functional upon installation.

Upon installation, the communications between each Bluetooth reader and the Proponent's travel time server shall be tested for POP to ensure that encrypted device data is being properly communicated.

For the Pilot Stage, the Proponent shall demonstrate all TT Service functions and requirements for at least two (2) valid and complete link-based, route-based, and sign-based data feeds.

Following the successful testing of the Pilot Stage as outlined in Exhibit 2, the Proponent shall deploy and conduct POP for the remainder of Bluetooth Readers for Full Deployment.

2.6.6.1.3 System Integration Testing (SIT)

The System Integration Testing shall test the following integration functionalities of components of the TT System:

- Raw device data collection and encryption by Bluetooth Readers in the field;
- Communication of raw data from the Bluetooth Readers to the Proponent's travel time server;
- Publishing of travel time information into the three (3) data feeds; and
- Transfer of data from the Proponent's system to MTO for regularly scheduled data dumps.

The Proponent shall test the effectiveness of its Bluetooth reader infilling procedure.

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- The Proponent shall test TT infilling by removing an individual Bluetooth reader from the test route and ensure that travel time calculations and data feed publishing are not affected.
- For the test route, infilling testing shall be conducted for the origin, one intermediate unit at a time, and the destination Bluetooth Readers.

The Proponent shall test data sharing procedures with partner agencies. Using a dummy TT feed, configured as specified in Appendix C, to simulate the receipt of a data feed from a partner agency for a cross-jurisdictional route, the Proponent shall test the following:

- Acceptance of the dummy feed by the TT System;
- Addition of TT from the dummy feed to TT generated by the TT central software; and
- Publishing the combined TT in the route-based data feed representing a cross-jurisdictional route.

The Proponent shall coordinate with MTO to implement the VPN tunnel between the Proponent's server and MTO firewall. The following steps shall be undertaken to ensure proper implementation of the VPN tunnel:

- The Proponent shall run a Domain Name Server (DNS) leak test on the VPN tunnel;
- The Proponent shall run an IP address leak test on the VPN tunnel; and
- The Proponent shall run a speed test on the VPN tunnel.

The Proponent shall test the functionality of the backup system and ensure that normal operations of the TT system sustain minimal interruption in the event that the TT server or software fails.

Before proceeding beyond the Pilot Stage:

- The Proponent shall demonstrate to MTO that the data server is properly installed, and that raw data collected from the deployed Bluetooth Readers is being properly transmitted to the server.
- The Proponent shall demonstrate to MTO that the server is effectively processing raw data into travel time manipulation.
- The Proponent shall coordinate with MTO to ensure that the data feeds are being received by MTO COMPASS System/Software and are properly configured.
- The Proponent shall ensure that the GUI is accessible from CRCTMC workstations through the latest versions of Google Chrome and Microsoft Edge stated in the requirements.

SIT in the Full Deployment stage shall be conducted to ensure that the Proponent's system maintains full functionality with the addition of all new Bluetooth Readers.

2.6.6.1.4 Pilot Demonstration Testing (PDT) and System Acceptance Testing (SAT)

Pilot Demonstration Testing shall be conducted once PIT, POP, and SIT are complete, staff training for the Pilot Stage has been conducted, and the TT system requirements are met for the Pilot Stage.

SAT shall be conducted once POP, SIT and staff training for Full Deployment have been completed, and all contract requirements are met for Full Deployment.

During PDT, the Proponent shall perform accuracy tests to demonstrate that the Bluetooth travel time information is representative of typical travel times through comparison to “ground truth” travel time data.

The Proponent shall develop an Accuracy Testing Plan to verify the TT System accuracy during PDT with MTO acceptance. The Proponent shall develop and provide to MTO an Accuracy Testing Plan as part of the Test Plan. MTO shall allocate three (3) weeks to review the Accuracy Testing Plan and provide feedback. The Proponent shall allocate one (1) week to update the Accuracy Testing Plan and respond to any questions or concerns of MTO. MTO shall provide final approval of the Accuracy Testing Plan to the Proponent in writing.

During PDT, the Proponent shall conduct accuracy testing for each of the following time periods:

- Weekday AM peak;
- Weekday PM peak; and
- Weekend.

During PDT, the Proponent shall demonstrate TT calculation recovery for each of the following BT failures:

- Origin;
- Midpoints; and
- Destination.

The Proponent shall provide documentation reporting the results of the PDT accuracy testing to MTO.

The Proponent shall be responsible for any adjustments to its system to improve the accuracy should the accuracy testing fail. The Proponent shall provide MTO with details of any changes to the TT System.

If modifications to the software of GUI are required after PDT is complete, the Proponent shall provide MTO with documentation highlighting the justification, implementation plan, and testing plan for the proposed changes.

For SAT, the Proponent shall demonstrate to MTO that the TT System is accurate.

2.6.6.2 Training

The Proponent shall run training sessions on the TT System features and functionality for relevant MTO staff. Training materials and schedules shall be outlined in the Test Plan, to be reviewed and approved by MTO. Training shall consist of two (2) stages (Pilot Stage and Full Deployment). All training for the Full Deployment stage shall be complete prior to SAT.

The Proponent shall describe in detail the training details and approach as part of their response to the RFP for evaluation.

Training session requirements are as follows.

- All training sessions shall take place at MTO facility at CRCTMC, located at 97 Arrow Road, Toronto or at MTO's designated facility in the GTHA unless otherwise dictated by the public health regulations related COVID-19 in effect at the time of training, in which case alternative remote training shall be conducted.
 - The Proponent shall coordinate with MTO to schedule times and dates.
- For both Pilot Stage Training, and Full Deployment training, the Proponent shall submit the training outline and list of materials to be demonstrated for review by MTO a minimum of three (3) weeks in advance of the first session. The training materials shall include presentation and training manual.
- The Proponent shall allow a minimum of one (1) week for reviews and revisions to ensure the training sessions are held within the designated dates.
- The Pilot Stage training shall consist of one (1) full-day training session which shall be attended by up to fifteen (15) MTO staff. This training session shall be conducted prior to PDT and the deployment of any additional Bluetooth Readers.
 - This training session shall cover system functionality and GUI capabilities (real-time travel time dashboard, historical data portal, reporting system, and system parameter configuration) with the initial minimum of 5% PDT Bluetooth Readers installed in the field.
 - A soft copy of the training material shall be provided to MTO on a USB storage device and via a secured FTP site.
- Following the Full Deployment of Bluetooth Readers, the Proponent shall provide training sessions which shall be attended by up to fifteen (15) MTO staff in each session. These training sessions shall be conducted with all Bluetooth Readers online and with a fully functional travel time server.

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- For all MTO attendees, Full Deployment training shall cover all functions and features of the Bluetooth Readers, travel time server, and GUI modules (real-time travel time dashboard, historical data portal, reporting system, and system parameter configuration).
- For the System Operator training, the sessions shall go over functionality that has been highlighted in the specification that is applicable to the day-to-day operations required for System Operators.
- One of the sessions shall cover appropriate training for MTO staff designated as System Administrators. In addition to the training topics covered in the System Operator training session, the System Administrator training sessions shall also cover the following:
 - Operations and maintenance of the system; and
 - User privilege and account settings.
- The Proponent shall provide all Full Deployment training materials for at least fifteen (15) participants. Each training participant shall receive a hard copy of the approved course material. An additional soft copy of the training material shall be provided to MTO either on a USB storage device or via a secured FTP site. All training materials shall become the property of MTO at the end of the training.

MTO shall provide basic seminar equipment, such as projectors (HDMI or equivalent), and Wi-Fi access. The Proponent shall provide any additional audio-visual aids and equipment for “hands on” demonstration that is considered necessary for effective presentation of the seminar contents.

2.6.6.3 Go-Live Requirements

2.6.6.3.1 Operability Period

The Operability Period shall refer to the first thirty (30) days following successful completion of System Acceptance Testing.

The operability period shall follow the successful completion of the Full Deployment’s SAT.

MTO shall be able to use the system under full operations to ensure that the system performance and reliability is acceptable by MTO during this period.

The Proponent shall be available to respond to MTO inquiries during the Operability Period within three (3) Business Days.

The Operability Period shall restart upon observing any operational issues during this period.

2.6.6.3.2 TT System Activation “Go-Live”

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“Go-Live” shall begin after the successful completion of the Operability Period and submission of the approved Letter of Credit.

“Go-Live” shall mark the start of the TT Service Operation, Maintenance and Support Phase and the commencement of the Service Level Agreement.

2.7 Operation, Maintenance and Support Phase

The Proponent shall be responsible for the TT Service Operation, Maintenance and Support at the successful completion of the Operability Period.

The Operation, Maintenance and Support Phase shall be governed by the requirements specified in the Appendix F - Service Level Agreement (SLA).

2.7.1 Letter of Credit

The Proponent shall provide the MTO, two (2) weeks prior to the start of the “Go-Live” period as specified in Section 2.6.6.3 with an irrevocable letter of credit issued by a Canadian Chartered Bank or an Ontario based Financial Institution, as approved by the MTO. The letter of credit shall be payable to the Ontario Minister of Finance. The irrevocable Letter of Credit shall be in the full amount of the sixty (60) months of Item 4 – Travel Time Service Operation, Maintenance and Support bid price expiring not less than sixty (60) months from the date of issue to secure payment by the Proponent to the MTO for costs of Travel Time Service not addressed by the Proponent in accordance with the Service Level Agreement provisions of the Contract. This letter of credit shall be held until the end of the Operation, Maintenance and Support Phase and may be adjusted at Proponent discretion to the lesser amount annually, reflecting the reduced amount outstanding in the Item 4 – Operation, Maintenance and Support.

Should the Term of Agreement be extended by 2 years, the letter of credit will automatically renew without further documentation on its expiry date with the same terms and conditions for the extension period. The irrevocable Letter of Credit shall be in the full amount of the twenty-four (24) months of Item 5 – Optional Extension of Travel Time Service Operation, Maintenance and Support bid price expiring not less than twenty four (24) months from the date of issue. This letter of credit shall be held until the end of the Item 5 Optional Extension of Travel Time Service, two (2) Year Term.

2.8 Contract Completion

The travel time services Contract shall be up for re-assessment following five (5) complete years of operation, or two (2) years thereafter. For the duration of the Contract, the Proponent shall be responsible for the operation and maintenance of all hardware and the software components of the TT System, including but not limited to Bluetooth Readers, the travel time server, and the data. Should the Contract be terminated, the Proponent shall decommission the TT System as specified in Section 2.8.2.

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MTO shall own all data and travel time information from the TT System, including all historical and aggregated data. During the Term of Agreement, the Proponent shall be responsible for storing and hosting all historical raw data (for a minimum period of 6 months) and historical aggregated travel time information for the duration of the Term of Agreement. At the completion of the Contract, whether after five (5) years, or over the duration of the extended Contract period, or at the earlier termination of the Contract, the Proponent shall be responsible for providing MTO with all stored historical raw data and historical aggregated travel time information. Details of data transfer are specified in Section 2.8.3.

2.8.1 Continuation of Service

Upon the successful completion of the five (5) year Travel Time Service Operation, Maintenance and Support Phase, MTO may opt to extend the Travel Time Service Operation, Maintenance and Support of Travel Time Service for an additional two (2) years duration. The option to extend will be exercised at MTO discretion. All requirements outlined in Section 2.6 and the SLA shall continue to be met.

2.8.2 Decommissioning of Service

At the completion of the Contract or termination at any point during the operational phase, the Proponent shall be required to decommission the Travel Time System and perform the removal of components of the system under direction of the Ministry's representative.

The decommissioning method for each component shall be carried out as outlined in the table below:

Travel Time System Components	Option 1: Continuation of Travel Time System	Option 2: Decommission of Travel Time System at Completion of Contract
<i>Field Infrastructure</i>		
Civil Provisions: Cabinet/Pole Mounted Installations Bluetooth Reader Unistrut Cabinet ID nameplate Power Disconnect Enclosure Wiring	Proponent shall maintain continued service, or as agreed with the MTO.	Proponent shall remove all assets and restore the areas impacted by the Work to its pre-construction condition. All BT Readers are to be salvaged and delivered to MTO Belfield Yard located at 1927 Kipling Avenue.

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Travel Time System Components	Option 1: Continuation of Travel Time System	Option 2: Decommission of Travel Time System at Completion of Contract
Civil Provisions – Standalone/Behind Noise Barrier Wall Installations Bluetooth Reader Sectional Steel Pole Power Disconnect enclosure Solar Panels (where applicable) Battery Cabinet (where applicable) Wiring	Proponent shall maintain continued service, as agreed with the MTO.	Proponent shall remove all assets and restore the areas impacted by the Work to its pre-construction condition. All BT Readers are to be salvaged and delivered to MTO Belfield Yard located at 1927 Kipling Avenue.
Civil Provisions – Standalone/Behind Noise Barrier Wall Installations Bluetooth Reader Sectional Steel Pole Power Disconnect enclosure Solar Panels (where applicable) Battery Cabinet (where applicable) Wiring	Proponent shall maintain continued service, as agreed with the MTO.	Proponent shall remove all assets and restore the areas impacted by the Work to its pre-construction condition. All BT Readers are to be salvaged and delivered to MTO Belfield Yard located at 1927 Kipling Avenue.
Power Connections	Proponent shall maintain continued service, as agreed with the MTO.	Any third-party service agreements signed for this Contract shall be terminated by the Proponent. All supply points shall be removed, unless part of existing ATMS.
Communication Service	Proponent shall maintain continued service, as agreed with the MTO.	Any third-party service agreements signed for this Contract shall be terminated by the Proponent.
Systems and Operations		
Travel Time Software	Proponent shall maintain continued service, as agreed	The Proponent shall ensure all data stored during the

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Travel Time System Components	Option 1: Continuation of Travel Time System	Option 2: Decommission of Travel Time System at Completion of Contract
	with the MTO.	entire Contract operational support phase are backed up and transferred to the MTO. Any service agreements signed for this Contract with a third-party Proponent(s) shall be terminated by the Proponent.

Decommissioning of TT System at the completion of the Contract is to be decided by the MTO. The items of work listed above are included in Provisional Sum item to be activated solely at the discretion of the MTO.

In the event of termination of the Contract due to non-performance, the removal of the system components shall not be considered as scope within the Provisional Sum and shall be completed by the Proponent at no additional cost to MTO.

2.8.3 Closeout Documents

The Proponent shall provide a Data Transfer Plan to MTO which details how all data stored on the Proponent's server, is to be transferred to MTO following completion of the Contract. The Data Transfer Plan shall be provided and reviewed by MTO prior to System Acceptance Testing of the TT System.

Data shall be provided to MTO in XML and CSV formats. MTO shall receive all data files within ten (10) business days following the final day of the Term of Agreement. MTO shall provide written confirmation to the Proponent upon receipt of all data.

2.9 Project Management

2.9.1 Project Management

The Proponent shall lead and manage this Design-Build-Maintain Project from start to completion, with regular progress reporting to the MTO.

2.9.2 Project Management Plan

The Proponent shall submit an updated Project Management Plan (PMP) within fifteen (15) Business Days of receipt of Permission to Start Work (PSW).

The project management plan shall provide details of:

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- The processes and tools to be used to manage the work under the Contract, the records keeping by the Proponent and the review meetings to be scheduled with the MTO;
- The methodologies in place for the Proponent to professionally manage the work to be carried out under the Contract;
- A detailed project schedule to include key Contract dates and Deliverables schedule (Also referred to as the “Baseline Schedule”);
- Quality Control Plan;
- Efforts to be undertaken to maintain the schedule of the Contract as well as efforts to be undertaken to deal with situations that threaten the schedule of the Contract; and
- Provisions for compliance with provincial COVID-19 regulations that may be in effect at the time of Contract.

2.9.3 Project Schedule

The Proponent shall develop and maintain a critical path schedule throughout the entirety of the design and construction phase. At minimum, it shall contain the following information:

- Tasks, their duration and dependencies;
- Project Milestones; and
- Other key Contract and deliverable dates.

The schedule shall be updated each month as required, or as requested by MTO, during the design and construction phase.

2.9.4 Meetings

The Proponent shall be expected to attend meetings with the MTO throughout the course of the project.

All meetings shall take place at MTO office unless otherwise dictated by the provincial public health regulations related to COVID-19, in which case alternative remote meetings shall be conducted.

All meetings shall be documented by the MTO.

2.9.4.1 Initial Contract Meeting

Within ten (10) Business Days of Contract Award, the Proponent shall contact the MTO to arrange the initial kick-off meeting. The meeting shall be held at the MTO office at a

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time and date agreed upon or remotely, if the COVID-19 pandemic restrictions are in effect. The meeting shall cover the general project management and presentation of the system design and operational concept.

2.9.4.2 Construction Stage Monthly Progress Meetings

Progress meetings during the Construction Phase shall be held monthly at MTO Office in Toronto or remotely, if the pandemic restrictions are in effect. The meetings shall be to review the construction progress, issues and remedial measures.

2.9.4.3 Operations, Warranty and Maintenance Kick-off Meeting

At minimum, ten (10) Business Days prior to the planned start of the Operations Phase, the Proponent must hold an Operations and Maintenance kick off meeting to review the maintenance plan, requirements of Service Level Agreement and the transition into the maintenance phase of the project.

2.9.5 Progress Reports

The Proponent shall prepare a monthly Progress Report during the construction phase which shall be submitted to the MTO no later than five (5) business days in advance of the monthly progress meeting; the report shall contain, at a minimum:

- List of tasks completed in the last period;
- List of ongoing tasks and percentage completed;
- Explanation of any problems or delays and the efforts taken to mitigate the effect; and
- Updated Schedule.

2.9.6 Quality Assurance

The Proponent shall perform its duties under the Contract within its own Quality Management System (QMS), which will define the measures to be taken to ensure that production and installation quality meets the required standards.

The Proponent shall submit the Quality Control (QC) and Quality Assurance (QA) Plan within fifteen (15) Business Days of Contract Award. The QA Plan shall outline the level of quality assurance for each aspect of the work to be completed under this Contract including design, documentation, construction and maintenance work. The quality assurance plan shall detail the Project Milestones for quality review by the Proponent and shall document how adherence to the quality assurance plan will be demonstrated to MTO.

2.9.6.1 Non-Conformance to Project Requirements

The Proponent shall ensure project requirements are being met and followed at all times.

The MTO shall formally notify the Proponent of noted non-conformance in writing.

The Proponent shall formally respond to the Non-Conformance notifications within five (5) Business Days. In a written response, the Proponent shall detail a description of the

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Non-Conformance, acceptance/rejection of the Non-Conformance, and a Proposal of the resolution.

2.9.7 Documentation**2.9.7.1 Design Submission**

The Proponent shall make design submissions for review of compliance.

All design submissions to the MTO shall consist of:

The design notes and computations shall be recorded on 8 1/2" x 11" sheets, appropriately titled, numbered, dated, indexed and signed by the designer and checker. The electrical components shall be designed by a licenced person experienced with MTO ATMS electrical installations. The digital drawings, as warranted, shall be prepared using AutoCAD (MTO approved version) format. Digital copies of the design notes/reports and computations are required in Adobe PDF format.

The final design submission shall include, without limitation, the following:

- Final Travel Time System Design – logic of calculating travel time/approval from MTO to finalize;
- Equipment list with product cut sheets and model numbers;
- Equipment Configuration;
- Implementation Plan;
- Environmental Submissions;
- Test and Training Plans;
- Equipment Removal Plan; and
- Maintenance and Operations Plan and Procedures.

A single complete design submission shall be made. No partial submissions shall be accepted.

2.9.7.1.1 Material Selection

Material selection documentation shall comprise of detailed specifications for all equipment and components to be implemented under this Contract. All material selection information, including Proponent specification sheets, shall be submitted as part of Design Submission.

2.9.7.1.2 Implementation Plan

The Proponent shall provide a detailed plan and schedule on how they intend to carry out installation, testing, and commissioning work for the Travel Time System. The plan shall

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include design tasks, equipment lead times, installation timeframes, testing, operational and construction constraints, task dependencies, and MTO allowed review periods.

2.9.7.1.3 Environmental

The Proponent shall provide the following submittals:

- Environmental Screening Document (ESD);
- Environmental Synopsis Report;
- Schedule for Environmental Planning including fieldwork and consultation;
- All components of environmental existing conditions and impact assessment (including all required and associated reports) for Terrestrial Ecosystems and current species at risk (SAR) information, as applicable;
- All components of environmental protection/mitigation, as applicable;
- Prepare a 'Summary of Concerns and Commitments' table as a chapter of the ESD;
- Provide all elements of external consultation (and shall be documented in the ESD), including but not limited to:
 - Prepare contact list;
 - Letters to stakeholders, municipalities, adjacent property owners (especially if there is night work), emergency services etc.;
 - Meetings with municipalities, EMS and local stakeholders;
- Prepare the environmental component of the Contract Administration assignment, if applicable;
- Obtain all necessary formal environmental permits and approvals and exemptions (municipal, provincial, and/or federal) [**Note:** MTO is exempted from local noise bylaws.];
- Ensure the project is eligible for environmental clearance, including preparation of "Eligible for Environmental Clearance" Letter to the MTO Environmental Planner; and
- All deliverables will be provided in draft for MTO Environmental Planner to review. One (1) digital word copy and one digital PDF copy of the final deliverables will be prepared.

2.9.7.1.4 Testing Plan

The Proponent shall prepare and submit to the MTO for approval the Testing Plan which shall outline the objectives of the required testing and a programme to identify each test that is to be performed, when and where the tests will occur, and which organization or unit is to perform the test.

The Testing Plan shall cover testing of all subsystems and subsystem equipment under

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this Contract including, but not limited to PIT, POP, SIT, PDT and SAT tests as detailed in Section 2.6.6.1.

2.9.7.1.5 Training Plan

The Proponent shall submit a training seminar outline and list of materials to be demonstrated for review by MTO as detailed in section 2.6.6.2.

2.10 Change Management**2.10.1 Addition/Revision to Travel Time Routes**

Proponent shall complete Travel Time Route revisions throughout the duration of the Travel Time System Operation, Maintenance and Support Phase and the optional extension, as directed by the Ministry. The revision of TT routes includes addition of new routes, changes to existing routes, and modification of TT message xml templates.

The base service of ten (10) route revisions per calendar year shall be included in the System Support service. The route revisions in excess of ten (10) per calendar year shall be paid for as additional fees added to the monthly service fees per unit price for this item. An additional route shall be defined as any route that is added as a Destination to a VMS. This shall apply to existing VMS and new VMS added to the scope of the Travel Time System over the term of Contract.

Changes to existing routes shall be defined as replacement of Destinations for existing routes without addition or removal of Bluetooth Readers. Such changes will be initiated by the Ministry and communicated to the Proponent and will include the VMS message template for the required route.

Modification of TT message template shall be defined as adjustment of Destinations for existing routes caused by change in VMS size and display capability. Such changes will be initiated by the Ministry and communicate to the Proponents and will include the VMS message template content for the affected routes.

Proponent shall complete the Travel Time system updates within five (5) Business Days of receiving the request from the Ministry.

2.10.2 Addition of Bluetooth Readers

Proponent shall supply and install additional Bluetooth Readers throughout the Term of the Contract, as directed by the Ministry. The addition of Bluetooth Readers may be required as new VMS locations are added by the Ministry or when additional destinations are identified.

The Ministry shall perform initial assessment and provide direction to the Proponent as to scope of work required at each site. The work shall in general follow three types of

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installations as detailed in the Contract Documents:

- a. At ATMS cabinet, Bluetooth reader unistrut mounted.
- b. At ATMS cabinet, Bluetooth reader mounted on existing pole or VMS structure.
- c. At ATMS cabinet, Bluetooth reader mounted on new sectional steel pole, behind noise barrier wall.
- d. Standalone installation, Bluetooth reader mounted on new sectional steel pole.

Proponent shall complete installation of new Bluetooth Reader sites and complete testing to verify operation within two months of receiving request from the Ministry. The link and route revisions resulting from addition of Bluetooth Readers shall be paid for as defined in section 8.1.

2.10.3 Relocation of Bluetooth Readers within Construction Zones

The Ministry shall notify the Proponent when a Bluetooth Reader needs to be protected within a construction zone.

The Ministry shall perform initial assessment and provide direction to the Proponent as to location of the existing Bluetooth reader impacted by Construction and where the units should be relocated to. The Ministry will indicate if the relocation is permanent or if the unit shall be relocated back to the original location following completion of constructions. The relocation to the original location shall be paid for as a new work order for this type of work.

The Proponent shall relocate impacted Bluetooth Readers as per direction provided by the Ministry within fifteen (15) Business Days of receiving the request.

2.11 Payment Schedule

Progress payments shall be made on a lump sum basis upon successful completion of a milestone, as certified and accepted by the Agreement Administrator.

The total price for the Project, shall be made up of the following items:

Item 1: Performance Bond

Item 2: Labor and Material Bond

Item 3: Travel Time System Design

Item 4: Construction of Travel Time System (following acceptance of PIT, POP, SIT and Training for the Travel Time System, Pilot and Full Deployment Stages, Operability Period, As-Built Information and Letter of Credit Submissions).

Item 5: Removal of Existing Travel Time System

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Item 6: Travel Time Service Operation, Maintenance and Support and LTE Services. The Project price for this item shall not be less than 30% of Contract Value for the sum of items: 1 – Travel Time System Design, 2 – Construction of Travel Time System and 3 – Removal of Existing Travel Time System.

Item 7: Optional Extension of Travel Time Service Operation, Maintenance and Support and LTE Services, 2 Years Contract Extension (Activation of this item is subject to the discretion of MTO)

Item 8: Decommissioning of Travel Time System (Activation of this item is subject to the discretion of MTO)

Item 9: Change Management (Activation of work in this item and all sub-items shall be at discretion of MTO and as needed. The quantities provided are for cost evaluation purpose only. MTO does not guarantee that there will be any specific quantity of these items during the Term of the Agreement.)

9a: Addition/Revision to Travel Time Routes (Assume 10 Routes, for cost evaluation purposes only. The Vendor shall provide service as requested by the MTO throughout the duration of the Travel Time Service Operation, Maintenance and Support Phase and the optional extension.)

9b: Addition of Bluetooth Readers (Assume 5 Readers of each type, for cost evaluation purposes only. The Vendor shall provide service as requested by the MTO throughout the duration of the Travel Time Service Operation, Maintenance and Support Phase and the optional extension.)

9b1: At ATMS Cabinet, Bluetooth reader Unistrut mounted

9b2: At ATMS cabinet, Bluetooth reader mounted on existing pole or VMS structure

9b3: At ATMS cabinet, Bluetooth reader mounted on new sectional steel pole, behind noise barrier wall

9b4: Standalone installation, Bluetooth reader mounted on new sectional steel pole

9c: Relocation of Bluetooth Readers within Construction Zones (Assume 25 Readers, for cost evaluation purposes only. The Vendor shall provide service as requested by the MTO throughout the duration of the Travel Time Service Operation, Maintenance and Support Phase and the optional extension.)

2.11.1 Payment milestones shall be as follows:

Milestone Description	Payment Percent
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Travel Time System Design	100% of Item
Construction of Travel Time System - Pilot Deployment (Acceptance of PIT/POP/SIT/PDT)	20% of Item
Construction of Travel Time System - Full Deployment of Travel Time System (POP/SIT), System Acceptance, Operability Period, As-built information, Letter of Credit	80% of Item
Removal of Existing Travel Time System	100% of Item
Decommissioning of Travel Time System Following Contract Completion - Provisional Sum	100% of Item
Change Management - Provisional Sum	100% of Unit Cost of each sub-item at completion of work

Monthly payments shall be as follows:

Monthly Payments Description	Payment Percent
Travel Time Service Operations, Maintenance and Support Phase	
Completion of five (5) Year Travel Time Service Operations, Maintenance and Support – Year one (1) Period, payable monthly	20% of Item
Completion of five (5) Year Travel Time Service Operations, Maintenance and Support – Year two (2) Period, payable monthly	20% of Item
Completion of five (5) Year Travel Time Service Operations, Maintenance and Support – Year three (3) Period, payable monthly	20% of Item
Completion of five (5) Year Travel Time Service Operations, Maintenance and Support – Year four (4) Period, payable monthly	20% of Item
Completion of five (5) Year Travel Time Service Operations, Maintenance and Support – Year five (5) Period, payable monthly	20% of Item
Extension of Travel Time Service Operations, Maintenance and Support – Year one (1), payable monthly	50% of the Item
Extension of Travel Time Service Operations, Maintenance and Support – Year two (2), payable monthly	50% of the Item

CHAPTER 3: SPECIFICATIONS

3.0 Scope

This chapter addresses specifications and general modifications for Design-Build contracts.

Contents

1. Design-Build General Specification
2. Performance Specifications
3. Design-Build Special Provisions
4. Special Provisions (Regional and Head Office)
5. Excluded Special Provisions (currently utilized Special Provisions not applicable to this Contract)

3.1 Design-Build General Specification

The Design-Builder shall use Ontario Provincial Standard Specifications (OPSS), Ontario Provincial Standard Drawings (OPSD), MTO Drawings (MTOD), Structural Standard Drawings (SSD) and MTO Special Provisions currently utilized by the ministry, according to the designer notes and warrant. Where designer notes make reference to tender items, it shall be understood to refer to the OPSS(s) most closely associated to the work.

All Ontario Provincial Standard Specifications, related MTO Special Provisions and Design-Build Special Provisions included in the Design-Build agreement are subject to the following exceptions and modifications:

- a) When the Specification refers to "Measurement for Payment" or to "Basis of Payment" such clauses and language do not apply.
- b) When the Specification refers to "Unit Prices" such language does not apply.
- c) When the Specification refers to any bonus, penalty or price adjustment such language does not apply unless and only if addressed directly in a Performance Specification or a Design-Build Special Provision.
- d) Any reference to "approval by Contract Administrator" shall mean approval by the Design-Builder's Engineer, and requires that documentation of such approval be provided within two (2) Business Days to the Contract Administrator, unless indicated otherwise in a Design-Build Special Provision. The above does not apply to repair or remedial action Proposals for non-conforming or deficient work or materials, Change Proposals (submitted by the Design-Builder), or anything associated with regulatory obligations/approvals of the Owner. In these situations, the Design-Builder shall obtain approval from the Contract Administrator.

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- e) All reports, test data, submissions and other such documents required by a Specification or Special Provision shall be submitted to the Contract Administrator within two (2) Business Days unless otherwise specified. Any non-conforming or rejectable material shall be removed and replaced.
- f) Any reference to an Engineer, unless specifically noted as an Owner's Engineer, shall mean an Engineer retained by the Design-Builder.
- g) The Ministry shall not make any payments for surplus crushed granular materials.
- h) All Quality Assurance samples (QA) shall be delivered according to SP 199F57. The designated QA lab shall normally be located within 150 km of the contract.

3.2 Performance Specifications

The following Performance Specifications shall be used for this Contract and are included at the end of Chapter 3.

PERF #	Title	Date
PERF 1072	Performance Specification for Environmental Management	January 2013
PERF 1075	Performance Specification for Information Management	June 2011

3.3 Design-Build Special Provisions

The following Design-Build Special Provisions that modify standard OPSSs and/or Special Provisions shall be used for this Contract and are available in CPS under the section Non-standard Special Provisions (NSP) where Region = Head Office and Category = Design Build.

SP DB #	Title	Date
DB 1350	Amendment to OPSS 1350, November 2016	August 2017
DB 599	Requirement for Statutory Bonds	

3.4 MTO Special Provisions

In addition to Standard Special Provisions, the following Special Provisions shall be used for this Contract and are included at the end of Chapter 3. In addition they are available in CPS under the section Non-standard Special Provisions (NSP) where Region = Region or Head Office and Category = Capital.

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Region/Head Office/ Included	SP #	Title	Date
HO	ENVR0001	OC (ENV) – Management of Excess Earth with Salt Impacts	01/17
HO	LAND0002	Requirements for Composted Topsoil and Seed	07/17
HO	CMOB 0007	Notice to Contractor – Fairness in Procurement	04/18
West	N100G001	NC – Emergency Contact Person	06/12
West	N100G002	NC – Removal of Canadian Tourism-Oriented Directional Signing (TODS) Signs	09/11
West	N100G003	NC – Notification for Reduced Widths	05/13
West	N100H001*	NC – Areas of Archaeological Concern and Archaeological Material	02/17
West	O100C001	OC – Illumination for Night Work	09/11
West	O100I001	OC – Maintenance of Traffic	09/11
West	O100I002	OC – Temporary Lane Closures	09/11
West	O100L001	OC – Protection of Hazards	06/18
West	O800A005	OC (ENV) – Erosion and Sedimentation Control	09/11
West	O800B001	OC (ENV) – Migratory Bird Protection	08/18
West	O800C002	OC (ENV) – Timing Constraint for Clearing	12/14
West	S706F04M	Portable Variable Message Signs (Temporary)	03/17

*Note: The version of N100H001 available on CPS has been revised for this project. The Design-Builder shall use the version that is included in the Appendix.

3.5 Excluded MTO Special Provisions

The following currently utilized Standard Special Provisions do not apply to this Contract.

SP #	Title
100S59	Permits to Take Water
103S20	Payment Adjustment to Asphalt Cement Content and Asphalt Cement Price Index
199F31	Environmental Exemptions and Permits
199F33	Construction Noise Constraints
199F61	Available Digital Information During Advertising and Construction
199F63	Navigable Water Protection

3.6 Performance Specifications**3.6.1 Performance Specification for Environmental Management**

METRIC
PROV PERF 1072
January 16, 2013

PERFORMANCE SPECIFICATION FOR
ENVIRONMENTAL MANAGEMENT

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1072.01	SCOPE
1072.02	REFERENCES
1072.03	DEFINITIONS
1072.04	DESIGN-BUILDER'S RESPONSIBILITIES AND OBLIGATIONS
1072.05	PERFORMANCE REQUIREMENTS

1072.01 SCOPE

This performance specification identifies the responsibilities and the obligations for environmental management associated with the delivery of all the Work.

1072.02 REFERENCES

This Work requires the mandatory use of the following documents:

- MTO's Class Environmental Assessment for Provincial Transportation Facilities, 2000
- MTO Environmental Standards and Practices
<https://www.library.mto.gov.on.ca/SydneyPLUS/TechPubs/Portal/tp/TechnicalPublications.aspx>
- MTO Environmental Reference for Design
- Statement of Environmental Values - Ministry of Transportation
- MTO/DFO/OMNR Protocol for Protecting Fish and Fish Habitat on Provincial Transportation Undertakings - User Field Guide
- MTO/MOE Memorandum of Understanding on Permit-To-Take-Water Approval Process
- MTO/MOE Memorandum of Understanding on Management of Excess Materials in Road Construction and Maintenance
- OPSS 180 General Specification for The Management of Excess Materials
- DFO Operational Statements
- NSSP ENVR0001 Management of Excess Earth with Salt Impacts

1072.03 DEFINITIONS

For the purpose of this specification, the following definitions apply:

Detect, Detected or Detection means observed, should have been observed or has been informed.

Environmental Management Plan means a project or site-specific plan developed and implemented to ensure that all necessary measures are identified and implemented in order to meet all environmental protection, regulatory and legislative requirements, contract requirements and Ministry obligations including adherence to the Design-Builder's Environmental Management System policy, programs and procedures.

Environmental Management System means the part of a Design-Builder's management system used to develop and implement its environmental policy, manage its environmental impacts and to ensure compliance with all environmental legal requirements. It is a set of interrelated elements (organizational structure, planning activities, responsibilities, practices, procedures, and resources) used to establish and achieve environmental objectives.

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Immediate or Immediately means the initiation of an activity as soon as possible after Detection and no later than two (2) hours from the time of Detection.

1072.04 DESIGN-BUILDER'S RESPONSIBILITIES AND OBLIGATIONS

The Design-Builder is responsible for undertaking the Work in a manner that protects the environment to meet the Contract requirements.

1072.04.01 Environmental Management

The Design-Builder has responsibility to meet all obligations for environmental protection during the Work and shall ensure that performance of all Work is carried out in compliance with all Environmental Laws, MTO Environmental Standards and Practices and the requirements for the Environmental Management System (EMS).

1072.04.01.01 Environmental Management System

The Design-Builder shall be responsible for the complete environmental management of and environmental protection planning for the Work and shall have a functioning Environmental Management System(EMS) in accordance with the requirements of this Section and generally consistent with CAN/CSA-ISO 14001:04 (ISO 14001:2004). The Design-Builder's EMS shall ensure that all Work undertaken during the term of the contract shall consistently meet all environmental protection, regulatory and legislative requirements and Ministry obligations.

1072.04.01.02 Environmental Management System Requirements

The Design-Builder shall develop an Environmental Management System (EMS) with sufficient detail, outlining its understanding and approach to the key EMS activities described below. The Design-Builder's Environmental Manager will be responsible for the coordination of all issues related to the EMS.

- Develop a documented process to ensure environmental legislative, environmental assessment commitments and other environmental requirements in relation to the Work are undertaken and monitored throughout the duration of the Work. The process shall also explain the intended method of reporting and communicating identified changes in these requirements to the Design-Builder personnel, subcontractors, consultants and suppliers.
- Document how approvals / permits and bylaw exemptions will be obtained, how requirements and commitments in environmental assessment documentation will be addressed, where applicable to contract activities, and how verification will take place that the requirements and commitments will be and have been met.
- Document and demonstrate how environmental protection / mitigation / compensation measures will be implemented during design and construction of the work and confirm that the environmental protection / mitigation /

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compensation measures have been implemented during design and construction of the Work.

- Documented procedures and processes to monitor and measure, on a regular basis, the Design-Builder's activities that can have significant environmental impacts and ensure appropriate corrective or preventative measures are taken to correct any actual or potential deficiencies revealed by monitoring activities.
- Documented procedures for environmental emergency preparedness and response to ensure that corrective action is taken to address environmental incidences. The Design-Builder shall be in strict compliance with the requirements of legislation regarding Environmental Incidents under the control of the Design-Builder or that are a result of the Design-Builder's operations during the Work.
- Ensure all employees, subcontractors and, as applicable, other involved parties working for or on behalf of the Design-Builder, have the appropriate competence, training and awareness in regard to the potential environmental impact of their activities, the Design-Builder's Environmental Management System, environmental protection / mitigation / compensation measures, contract responsibilities and obligations, environmental protection, regulatory and legislative requirements and requirements of permits and approvals and any other environmental requirements.

1072.04.02 Environmental Information Management

The Design-Builder is responsible for all information management requirements identified in this performance specification or elsewhere in the Contract documents. The associated performance requirements and consequences for non-conformance related to information management are documented in the Information Management PERF included in the Contract.

1072.04.02.01 Environmental Management System Records

The Design-Builder shall create and maintain records to provide evidence of compliance with Environmental Laws; Contract environmental requirements; and the Environmental Management System. The Design-Builder shall provide the Ministry access to environmental Records, upon request within 24 hours.

1072.04.02.02 Permits and Approvals

The Design-Builder must provide copies to the MTO Contract Administrator of all draft and final environmental permits, approvals, bylaw exemptions and authorizations and documentation, including Design and Construction Report (DCR) and technical reports, prior to starting construction on the related element of the Work.

1072.04.02.03 External Consultation

A minimum of five weeks prior to any external consultations taking place, the Design-Builder shall submit a consultation plan and schedule for completing the appropriate level of consultation to meet the requirements of the MTO Class EA, including any commitments made during preliminary design as described in the TESR and Class EA study, as may have been amended by the Design-Builder during detail design. Any changes to the consultation plan or schedule shall be submitted immediately to the MTO Contract Administrator.

Drafts of all public notices, letters, Public Information Centre (PIC) materials and environmental assessment process documentation (including but not limited to the DCR, technical reports, project mailing list, responses to stakeholders, permit applications etc.) will be provided to the MTO Contract Administrator for review, at least five weeks prior to completion, distribution, event or 30-day public review period. No draft documents shall be made available for public review.

The Design-Builder must notify the MTO Contract Administrator of any public notifications at least two (2) weeks prior to when the public notification is to occur. PIC notification is to be provided to the public two (2) weeks prior to the PIC date. Copies of all written submissions are to be provided to MTO within three (3) Working Days of their receipt. A PIC summary report is to be provided to the MTO Contract Administrator within ten (10) Working Days after the deadline for written submission.

1072.04.02.04 During Design

During the design phase of the Work, the Design-Builder shall submit the following documentation to the MTO Contract Administrator:

- a) Description of changes to the Work compared to Work as described in the environmental assessment process documentation or any changes to permits, approvals, bylaw exemptions or authorizations previously obtained during design, submitted prior to further advancing design on the related element of the Work. The submission will include a detailed assessment of "significance" of the change per the Class EA principles and, if applicable, a detailed description and schedule for any required amendments to the original EA.
- b) Any additional or revised permits, approvals, bylaw exemptions and authorizations that were obtained submitted upon receipt.
- c) Any continual improvement initiatives made to the EMS, or any revisions made to the Environmental Management Plan, submitted prior to implementation of change.

1072.04.02.05 Prior to Construction

Prior to start of construction, the Design-Builder must submit to the MTO Contract Administrator a letter of confirmation, signed by the Environmental Manager, that assures that all Class Environmental Assessment commitments and requirements of permits and approvals have been met and that the project is eligible for Environmental Clearance-Construction Start, as per the MTO Class EA for Provincial Transportation Facilities (2000).

1072.04.02.06 During Construction

During construction, the Design-Builder shall submit the following documentation to the MTO Contract Administrator:

- a) Description of changes to the Work compared to work as described in the Environmental Assessment Process Documentation or any changes to permits, approvals, bylaw exemptions or authorizations previously obtained during design, submitted prior to starting construction on the related element of the Work.
- b) Any additional or revised permits, approvals, bylaw exemptions and authorizations that were obtained submitted upon receipt.
- c) Any complaints, warnings, directions, orders or charges received from regulatory agencies during the Work submitted upon receipt.
- d) Immediate notification to MTO of any Environmental Incidents and any contacts with regulatory agencies and resulting actions.
- e) Update on Environmental Incidents reported, including a summary of actions taken and actions scheduled, submitted monthly.
- f) Drafts and final copies of Monitoring Reports required by Environmental Permits or authorizations (e.g.: for Fisheries Act Authorizations or Endangered Species Act Permits, etc.) submitted as required by the applicable Permit or authorization.
- g) Update report on items identified in monitoring requiring corrective/preventative action (e.g. non-conformances), including resolution status of each, submitted monthly.
- h) Any continual improvement initiatives made to the EMS, or any revisions made to the Environmental Management Plan, submitted prior to implementation of change.

1072.04.02.07 Completion of Work

Upon completion of the Work, the Design-Builder shall submit to the MTO Contract Administrator a letter of confirmation, signed by the Environmental Manager, that assures that all Class Environmental Assessment commitments, Contract requirements and obligations, environmental protection, regulatory, legislative requirements and requirements of permits and approvals and any other environmental requirements have been met during the course of the Work.

1072.05 PERFORMANCE REQUIREMENTS**1072.05.01 Performance Requirements**

The Design-Builder shall ensure that Performance Requirements identified in Table 1 are met or exceeded.

Table 1

Feature	Performance Requirement
Environmental Management	
Protection of the environment during Work as required by the Contract within the Contract Area.	Work meets all requirements of environmental legislation and Contract requirements 100% of the time.
Immediate corrective action of a non-conformance	Design-Builder undertakes required notifications and corrective actions for non-conformance Immediately upon identification through monitoring, or upon Detection 100% of the time.

1072.05.03 Performance Indicators

The Ministry, at its discretion, may collect performance indicators. The collection may consist of up to 100% of the contract area and the exact location will be at the Ministry's discretion. A more thorough data collection may be carried out if there is evidence of non-conformance. The additional data collection may include a review of the Design-Builder's records, plans and actions taken.

The performance indicators that the Ministry collects will be shared with the Design-Builder and will be the only indicators used by the Ministry to apply consequences for non-conformance.

1072.05.04 Conformance to the Performance Requirements

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Upon completion of the collection of performance indicators, the Ministry will make an assessment of conformance or non-conformance to the performance requirements.

The Ministry will have the complete discretion in the choice of performance indicators to use in determining conformance. The assessment however, will include consideration of events that are beyond the care and control of the Design-Builder. The Ministry will examine all relevant factors involved with the situation including the Design-Builder's rationale as to why the situation occurred.

If, after completing the collection of performance indicators, assessing all the relevant data, including data provided by the Design-Builder, a non-conformance is determined, a notice of non-conformance may be issued to the Design-Builder for features that do not conform to the performance requirements.

1072.05.05 Consequences for Non-Conformance to the Performance Requirements

The Design-Builder shall be responsible for performing all specified consequences for any non-conformance to the performance requirements.

1072.05.04.01 Consequence Tables

The consequences for non-conformance to the performance requirements are described in Table 2:

Table 2

Feature	Consequences for Non-Conformance	
	Initial	Subsequent
Environmental Management		
Protection of the environment during Work as required by the Contract.	\$5,000 for each instance where there has been a violation of environmental legislation or Contract requirements.	\$1,000 for each 12 hour period or part thereof beyond the first 12 hour period after Detection that the violation remains uncorrected.
Immediate corrective action of a non-conformance.	\$5,000 for each instance where notifications or corrective actions were not undertaken Immediately upon Detection.	\$1,000 for each 12 hour period or part thereof beyond the first 12 hour period after Detection that the notification or corrective action are not undertaken.

3.6.2 Performance Specification for Information Management

METRIC
PROV PERF 1075
June 1, 2011

PERFORMANCE SPECIFICATION FOR
INFORMATION MANAGEMENT

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1075.01 SCOPE

This performance specification covers the responsibilities and obligations for information management associated with all of the Design-Builder's activities required to complete the Work in accordance with the Contract.

1075.02 REFERENCES - Not Used

1075.03 DEFINITIONS

For the purpose of this specification, the following definitions apply:

Accurate means the information provided is a true representation of an actual situation, accomplishment or occurrence

Complete means that all required and relevant information has been provided

Contentious means an issue, complaint or inquiry which has the potential to create media attention, result in legal action against the Government, Ministry or Design-Builder or may position the Government or Ministry as less informed than the public.

Reasonable means a sound judgement or action that is not excessive or extreme nor insufficient

Timely means that all required information is provided within the prescribed or Reasonable timeframe

1075.04 DESIGN-BUILDER'S RESPONSIBILITIES AND OBLIGATIONS

1075.04.01 General

As the owner, the Ministry requires access to Timely, Accurate and Complete information to employ sound asset management and to defend itself against potential litigation. For Design-Build contracts, the amount of information required to be submitted by the Design-Builder is less than in conventional contracts, however, the Ministry may request additional information at anytime during the contract or warranty period. The Design-Builder shall maintain effective information management practices throughout the duration of the contract and warranty period.

1075.04.02 Public Notifications

The Design-Builder shall be responsible for notifying the Contract Administrator of any operations that might require public notification based on their potential impact on the travelling public or local residents. The Contract Administrator will determine the appropriate course of action for notifying the public and will advise the Design-Builder of any required action. Notification to the Contract Administrator shall be provided at least one (1) week in advance of the planned operation unless otherwise specified in the

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Contract. Some examples of operations that may require public notification include lane and ramp closures, detours, night work and operations with high noise volumes. Failure to provide notification to the Contract Administrator will result in the Design-Builder being subject to consequences for non-conformance as outlined in Table 2.

1075.04.03 Contract Information Management Requirements

There are several contract information management requirements contained within the Specifications, Project Requirements and General Conditions of the Contract. The general performance requirements and consequences for non-conformance specified for contract information management requirements specified in Tables 1 and 2 of this performance specification shall also apply to the information management and submission requirements outlined in all other specifications and elsewhere in the Contract. A few key information management requirements are highlighted below:

Design Submissions - The Design-Builder shall submit all relevant design submissions as outlined in the Contract prior to starting construction of that element of the work. Submissions that are deemed to be late, incomplete or inaccurate in accordance with the Contract will be subject to consequences for non-conformance as outlined in Table 2.

Record Drawings - The Design-Builder shall submit Record Drawings of the as-constructed completed Project as outlined in Section 2 Project Requirements of the Contract within twenty (20) days of issuance of the certificate of completion as identified in Section 3: GC 8.02.05.07. Submissions that are deemed to be late, incomplete or inaccurate in accordance with the Contract will be subject to consequences for non-conformance as outlined in Table 2.

Certifications and Confirmations - The Design-Builder shall submit all relevant certifications and confirmations according to the Contract. Certifications and confirmations that are deemed to be late, incomplete or inaccurate will be subject to consequences for non-conformance as outlined in Table 2.

1075.04.04 Information Requests

The Design-Builder shall respond to requests with information that is Accurate, Timely and Complete. The Design-Builder will typically receive information requests from the Ministry, however, they may also receive requests from the public. Ministry-initiated requests will typically involve information related to work accomplishments, asset conditions or information that is not readily available to the Ministry through other means. Timelines for providing the information are dependant on the nature of the request and therefore can not be determined in advance. The Ministry will make every effort to set timelines that are Reasonable for the Design-Builder to respond to.

Public-initiated complaints/inquiries will be in the form of direct contact with the public (e.g. property owners, other Ministries, municipalities, EMS, travelling public, etc.) by telephone or written correspondence. The Design-Builder shall document and record all

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complaints/inquiries and actions taken and submitted to the Ministry throughout the duration of the contract or upon request. The Ministry shall be notified immediately of any Contentious issues. Public-initiated complaints/inquires will typically include information on specific work activities and impact to the travelling public. The Design-Builder shall notify the Contract Administrator of any public information requests, and the Contract Administrator will determine if the information requested is appropriate to be provided by the Design-Builder.

Information that is deemed to be late, incomplete or inaccurate in accordance with the Contract will be subject to Consequences for non-conformance as outlined in Table 2.

1075.05 PERFORMANCE REQUIREMENTS**1075.05.01 Performance Requirements**

The Design-Builder shall ensure that all performance requirements described in Table 1 are met or exceeded.

Table 1
Information Management Performance Requirements

Feature	Performance Requirements
Public Notifications	<ul style="list-style-type: none"> • 100% of requirements of Public Notifications identified in section 1075.04.02 met.
Information Requests	<ul style="list-style-type: none"> • 100% of information provided within the specified timeframe for the request. • 100% of information is Complete and Accurate. • 100% of public complaints/ inquiries responded to within 48 hours. • Complaint logs submitted to Ministry.
Contract Information Requirements	<ul style="list-style-type: none"> • 100% of information provided within the specified timeframe in the Contract. • 100% of information is Complete and Accurate. • 100% of design submissions submitted to the Ministry prior to beginning construction of that element of the work. • Record Drawings submitted within 20 days after issuance of Certificate of Completion. • 100% of the required certifications and confirmations submitted as specified in the Contract.

1075.05.03 Performance Indicators

The Ministry, at its discretion, may collect Performance Indicators. The collection may consist of up to 100% of the contract area and the exact location will be at the Ministry's

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discretion. A more thorough data collection may be carried out if there is evidence of non-conformance. The additional data collection may include a review of the Design-Builder's records, plans and actions taken.

The Performance Indicators that the Ministry collects will be shared with the Design-Builder and will be the only indicators used by the Ministry to apply consequences for non-conformance.

1075.05.04 Conformance to the Performance Requirements

Upon completion of the collection of performance indicators the Ministry will make an assessment of conformance or non-Conformance to the performance requirements.

The Ministry will have the complete discretion in the choice of performance indicators to use in determining conformance. The assessment however, will include consideration of events that are beyond the care and control of the Design-Builder. The Ministry will examine all relevant factors involved with the situation including the Design-Builder's rationale as to why the situation occurred.

If, after completing the collection of performance indicators, assessing all the relevant data, including data provided by the Design-Builder, a non-conformance is determined, a Notice of Non-Conformance may be issued to the Design-Builder for features that do not conform to the performance requirements.

1075.05.05 Consequences for Non-conformance to the Performance Requirements

The Design-Builder shall be responsible for performing all specified consequences for any non-conformance to the performance requirements.

1075.05.05.01 Consequence Tables

The consequences for non-conformance to the performance requirements are described in Table 2:

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Table 2
Consequences for non-conformance to the Performance Requirements

Feature	Consequences for Non-conformance to the Performance Requirements
Public Notifications	<ul style="list-style-type: none"> • Construction delayed or ceased if Contract Administrator is not notified of operations requiring public notifications as required by section 1075.04.02. • \$5,000 per occurrence for proceeding with an operation where public notification was required.
Information Requests	<ul style="list-style-type: none"> • \$1,000 per occurrence of information not submitted within the Ministry specified time and \$1,000 per additional day until received. • \$1,000 per occurrence of the information not being Complete or Accurate.
Contract Information Requirements	<ul style="list-style-type: none"> • \$1,000 per occurrence of information not provided within the specified timeframe in the Contract. • \$1,000 per occurrence of the information not being Complete or Accurate. • Construction delayed or ceased if applicable design submission not submitted to the ministry or if submission is incomplete or not in accordance with mandatory design standards. • The Contract Completion Certificate will not be issued until all certifications and confirmations fully comply with the Contract.

CHAPTER 4: AMENDMENT TO MTO GENERAL CONDITIONS OF CONTRACT

Introduction

OPSS.PROV 100, November 2016, MTO General Conditions of Contract as amended by the special provision included below shall form part of this Design-Build Request for Proposals.

AMENDMENT TO OPSS.PROV 100, NOVEMBER 2016, MTO GENERAL CONDITIONS OF CONTRACT

Special Provision

GC 1.02 Abbreviations

Subsection GC 1.02, Abbreviations, is amended by the addition of the following to clause 1.02.01:

DFO -	Department of Fisheries and Oceans
MNRF -	Ministry of Natural Resources Forestry
MOL -	Ministry of Labour
OHSA -	Occupational Health and Safety Act

GC 1.04 Ontario Provincial Standards

Subsection GC 1.04, Ontario Provincial Standards, is amended as follows:

Paragraph .01 is deleted and replaced with the following:

- .01 Regardless of the publishing date on OPSSs and OPSDs contained in the OPS manuals and on a MTO website, the Standards applicable to this Contract shall be according to chapter two of the Contract Documents with following exception:
- a) Reference to OPSS 127 means the version that is current at the time the work is carried out shall apply.

GC 1.07 Definitions

Subsection GC 1.07, Definitions, is amended by the modification of the existing definitions as follows:

Contract Documents means the Agreement, RFP, Design-Builder's Proposal, MTO

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General Conditions of Contract, Standard Specifications and Drawings, Special Provisions, Issued for Construction Package(s), Addenda incorporated into any aforementioned document, documents referenced in the aforementioned documents, and subsequent amendments to any of these documents made pursuant to the provisions of the Agreement.

Quantity Sheet - means a list of the locations, estimated design quantities, and other details of Work to be completed and reflecting standard and non-standard items listed under the Master Item list in the Contract Preparation System (CPS).

Contractor - “Also means Design-Builder” is added to the end of the definition.

Record Drawings and Documentation - means marked-up drawings and documentation prepared by the Contractor that show all differences, design changes, and deviations from the Issued for Construction Package(s). Record Drawings and Documentation shall be verified and stamped by Professional Engineer(s).

Superintendent - “Also means the Design-Builder’s Project Manager” is added to the end of the definition.

Work means the total services required by the Contract Documents.

SECTION GC 2.0 CONTRACT DOCUMENTS

Section GC 2.01 Reliance on Contract Documents

GC Subsection GC 2.01, Reliance on Contract Documents, is amended by deleting paragraph .02 and replacing it with the following:

- .02 The Owner does not warrant interpretations of data, omissions, recommendations or opinions expressed in any subsurface report provided by the Owner.

GC 2.02 Order of Precedence

Subsection GC 2.02, Order of Precedence, is amended by deleting paragraph .01 and replacing it with the following:

- .01 In the event of any inconsistency or conflict in the contents of the following documents, such documents shall take precedence and govern in the following order:
 - .1 RFP Appendix B - Agreement
 - .2 Addenda
 - .3 RFP Chapter 2 - Project Requirements and Specifications

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- .4 Design-Build General Specification
- .5 Performance Specifications
- .6 Design-Build Special Provisions
- .7 Special Provisions
- .8 OPSSs
- .9 Issued for Construction (IFC) Package(s)
- .10 Standard Drawings
- .11 RFP (excluding chapters/ appendices referenced in this list)
- .12 RFP Chapter 3 - Amendment to OPSS.PROV 100, November 2016, MTO General Conditions of Contract
- .13 OPSS.PROV 100, November 2016, MTO General Conditions of Contract
- .14 Proposal
- .15 Working Drawings

Later dates shall govern within each of the above categories of documents. Notwithstanding the above, in the event that the Design-Builders Proposal exceeds the requirements of the RFP, the Design-Builder shall be held to their Proposal.

Section GC 2.0, CONTRACT DOCUMENTS, is further amended by the addition of the following subsection:

GC 2.03 Ownership and Copyright

- .01 The Contractor agrees that all Intellectual Property and every other right, title and interest in and to all concepts, techniques, ideas, information and materials, however recorded, (including images and data) provided by the Owner to the Contractor in the performance of the Work shall remain the sole property of Her Majesty the Queen in right of Ontario at all times.
- .02 The Contractor shall not use any insignia or logo of Her Majesty the Queen in right of Ontario except where required to provide the Work, and only if it has received the prior written permission of the Owner to do so.

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- .03 The Owner shall be the sole owner of any Newly Created Intellectual Property. The Contractor irrevocably assigns to and in favour of the Owner and the Owner accepts every right, title and interest in and to all Newly Created Intellectual Property in the Work, immediately following the creation thereof, for all time. To the extent that any of the Work includes, in whole or in part, the Contractor's Intellectual Property, the Contractor grants to the Owner a licence to use that Contractor Intellectual Property in the manner contemplated in this Article. The Contractor shall provide the Work to the Owner: (a) at the point of completion of the services; or (b) upon termination of this Contract; or (c) at any time upon the request of the Owner.
- .04 The presumption governing this Contract shall be that the Owner shall be the sole owner of any Intellectual Property in any form contained in any of the Work. If the Contractor's Intellectual Property forms any part of the Work, the Contractor shall notify the Owner as such prior to the delivery of the particular Deliverable containing any such Contractor Intellectual Property. In the absence of any such notice the presumption shall remain that the Owner is the sole owner of any Intellectual Property contained in the Work.
- .05 For those parts of the Work that are Contractor Intellectual Property, the Contractor grants to the Owner, a perpetual, world-wide, non-exclusive, irrevocable, transferable, royalty-free, fully paid-up right and licence: (a) to use, execute, display, distribute, perform and reproduce, in any form, copies of those Work and to practice and have practiced any process or method (or both) associated with such Work; and (b) to use, execute, make, have made, have used, display, distribute, perform, reproduce and prepare, in any form, Derivative Work based on those Work and to practice and have practiced any process or method (or both) associated with such Derivative Work; and (c) authorize other Persons including agents, contractors or subcontractors to do any of the former on behalf of the Owner.
- .06 The Contractor shall not incorporate into any Work anything that would restrict the right of the Owner to modify, further develop or otherwise use the Work in any way that the Owner deems necessary, or that would prevent the Owner from entering into any contract with any contractor other than the Contractor for the modification, further development of or other use of the Work.
- .07 The Contractor represents and warrants that the provision of the Work shall not infringe or induce the infringement of any Third-Party Intellectual Property rights. The Contractor further represents and warrants that it has obtained assurances with respect to any Third-Party Intellectual Property that any rights of integrity or any other moral rights associated therewith have been waived.
- .08 The Contractor shall obtain waivers of all rights of integrity and any other moral rights in relation to the Work from its employees, volunteers, agents and subcontractors and from any other party in the position to assert such rights in relation to any of the Work, which waivers may be invoked without restriction by any person authorized by the Owner to use the Work.

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- .09 The Contractor shall place a copyright notice on all recorded Work it provides to the Owner under this Contract in the following form:
- “© Queen’s Printer for Ontario, 2010”
- .10 For the purposes of the *Copyright Act* (Canada), the Contractor acknowledges that the copyright for all Intellectual Property shall belong to the Owner. At the request of the Owner, at any time or from time to time, the Contractor shall execute and agrees to cause anyone in the position to assert rights of integrity or any other moral right (including its employees, volunteers, agents and subcontractors) to execute a written assignment of copyright and waiver of moral rights in the applicable Deliverable to the Owner. The Contractor shall assist the Owner in preparing any Canadian copyright registration that the Owner considers appropriate. The Contractor shall obtain or execute any other document reasonably required by the Owner to protect the Intellectual Property of the Owner.
- .11 The Owner reserves the right to prescribe the specific manner in which the Contractor shall perform its obligations relating to this General Condition.
- .12 The Owner acknowledges that there shall be no implied warranty of fitness by the Contractor for any agreements, materials, studies, reports, requests, approvals, notices or other documents which:
- a) Have not been given or prepared by the Contractor or its subcontractors or agents;
 - b) Are incomplete due to early termination or suspension of this Contract;
 - c) Have been altered or revised without the prior participation or consent of the Contractor; and/or
 - d) Are used or applied for any purpose outside of the express limitations set out therein.
- .13 The Contractor may retain one copy of each such document solely for record-keeping purposes.
- .14 All software or software media (“**Software**”) provided to the Owner by the Contractor or vice versa, directly or by way of a third party, shall be free of software viruses. In the event that a virus is found in the Software and without prejudice to any other rights or remedies of either party the relevant party shall at its own expense either immediately remove such virus from the Software to the satisfaction of the other party and replace the infected Software and remedy the resulting damage.

With respect to any access to or use of Government Systems, as may be permitted under this Contract, the Contractor shall ensure that no software viruses are introduced to the Government Systems by the Contractor.

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- .15 The obligations contained in this Article shall survive the termination or expiry of this Contract.

SECTION GC 3.0 ADMINISTRATION OF THE CONTRACT**GC 3.01 Contract Administrator's Authority**

Subsection GC 3.01, Contract Administrator's Authority, is amended as follows:

Paragraph .01 – 1st sentence is deleted and replaced with the following:

The Contract Administrator shall be the Owner's representative during the Contract and until the issuance of the Release from Warranty Certificate.

Paragraph .03 is deleted and replaced with the following:

The Contract Administrator may inspect the Work for its conformity with the Contract Documents and to record the necessary data to establish payment quantities under the schedule of tender quantities and unit price or to make an assessment of the value of the work completed in the case of a lump sum price Contract.

GC 3.07 Delays

Subsection GC 3.07, Delays, is amended by the addition of the following to clause GC 3.07.01.

- h) The presence of Species at Risk as defined under the federal Species at Risk Act, 2002 and/or the provincial Endangered Species Act, 2007 not otherwise identified in the Contract Documents.

Subsection GC 3.07 is further amended by the addition of the following clause:

- .06 If the Contractor encounters Species at Risk as defined in clause GC 3.07.01 not otherwise identified in the Contract Documents within the Contract limits that are likely to be impacted by the Contractor's operations:
 - a) The Contractor shall immediately notify the Contract Administrator and suspend operations within the area identified by the Contract Administrator.
 - b) Work shall remain suspended within that area until otherwise directed by the Contract Administrator in writing, according to subsection GC 7.11, Suspension of Work.
 - c) Any delay in the completion date of the Contract that is caused by such a cessation of construction operations shall be considered to be beyond the Contractor's control according to clause GC 3.07.01.

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- d) Any increases in the cost of the work to be done that are caused by such a cessation of construction operations shall be considered as a Change in the Work according to clause GC 3.10.01.01.
- e) Any work directed or authorized in connection with the unexpected presence of Species at Risk shall be considered as Changes in the Work according to clause GC 3.10.01, Changes in the Work.

GC 3.09 Subcontracting by the Contractor

Subsection GC 3.09, Subcontracting by the Contractor, is amended as follows:

Paragraph .01 is deleted and replaced by the following:

The Contractor may subcontract any portion of the Work.

Paragraph .05 – 1st sentence is deleted and replaced with the following:

The Contractor shall not subcontract any part of the Work to a Subcontractor that was identified as the Preferred Proponent in the RFP stage and subsequently failed to enter into a Contract with the Owner.

GC 3.11.02 Sharing of Cost Savings

Paragraph .01 a) is deleted in its entirety

SECTION GC 4.0 OWNER'S RIGHTS AND RESPONSIBILITIES**GC 4.01 Working Area**

Subsection GC 4.01, Working Area, is amended by deleting paragraph .01 and replacing it with the following:

- .01 The Owner shall acquire all property rights which are deemed necessary by the Owner for the construction of the Work, including temporary working easements, and shall indicate the full extent of the Working Area in the Contract Documents.

GC 4.02 Management of Excess Materials

Subsection GC 4.02, Management of Excess Materials, is amended by deleting paragraph .01 and replacing it with the following:

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- .01 The Owner may identify in the Contract Documents the materials to be moved within or removed from the Working Area, and any characteristics of those materials which shall necessitate special materials management and disposition.

GC 4.13 Owner Audit

Subsection GC 4.13, Owner Audit, is amended by deleting paragraph .01 and replacing it with the following:

- .01 The Owner may inspect, review, and audit all Records associated with the Contract, including the Contractor's and Subcontractor's Records relating to the Work and Changes in the Work and Claims, at any time up to 12 months after the expiry of the warranty period. The Contractor shall complete and submit to the Contract Administrator, the Owner's standard form PH-CC-762, Subcontractor's Consent to Audit, for each Subcontractor employed by the Contractor.

SECTION GC 6.0 INSURANCE, PROTECTION, AND DAMAGE**GC 6.02 Indemnification**

Subsection GC 6.02, Indemnification, is amended by the addition of the following clauses:

- .06 The Contractor shall pay all copyright or patent royalties or both, if any, to any third party in respect of the use of the Contractor's Intellectual Property. The Contractor shall defend, at its own expense, in the name and on behalf of the Owner, any Claim brought against the Owner, its officers, personnel or agents, and any negotiations for their settlement, to the extent that any such Claim is based on a claim that the Contractor's Proprietary Information, or any part thereof, infringe on any patent or copyright or any other industrial or intellectual property right, including trade secrets, provided the Contractor is notified promptly in writing and given authority, information and assistance (at the Contractor's expense) sufficient to permit the Contractor to defend same. The Contractor shall pay all damages and costs awarded against the Owner, its officers, personnel and agents, in any such suit or proceeding; but the Contractor shall not be responsible for any damages, costs or expense where a settlement has been incurred by or on behalf of the Owner without the Contractor's prior written consent or where the Owner's conduct in any way compromises the defence of such suit or proceeding.
- .07 The Contractor shall promptly discharge all settlement expenditures, if any, and all liabilities, damages, monetary awards and costs awarded against the Owner by a court or tribunal of competent jurisdiction, arising out of or in connection with such alleged infringement or misappropriation, together with all related legal fees and expenses; provided however, that the Contractor shall not be responsible for any such liabilities, damages, monetary awards, costs and expenses (including any related legal fees and expenses) where a settlement has been incurred by or on behalf of the Owner without the Contractor's prior written consent or where the Owner's conduct in any way compromises the defence of such suit or proceeding.

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- .08 In the event that the Contractor's Intellectual Property or part thereof constitutes an infringement or violation and the use thereof is enjoined, the Contractor shall be in breach of this Contract and, without prejudice to such other legal rights and remedies that may be available to the Owner, the Contractor shall, at its expense:
- a) Procure for the Owner the right to continue using either the Contractor's Intellectual Property or part thereof;
 - b) Replace same with a non-infringing substitute or part thereof; or
 - c) Modify either the Contractor's Intellectual Property or part thereof to the Owner's satisfaction so it becomes non-infringing.
- .09 If the Contractor is unable to make available any of the remedies specified above, the Contractor shall, at its sole expense, promptly upon the Owner's demand de-install and remove the Contractor's Intellectual Property and refund all amounts paid by the Owner to the Contractor with respect to such Contractor's Intellectual Property without prejudice to such other legal rights and remedies as may be available to the Owner. In such event any financial obligations of the Owner with respect to further support, maintenance and services relating to the Contractor's Intellectual Property cease at the date the Owner ceases to use the Contractor's Intellectual Property.

SECTION GC 7.0 CONTRACTOR'S RESPONSIBILITIES AND CONTROL OF THE WORK

GC 7.01.07 Critical Path Schedule

Paragraph .01 of Subsection GC 7.01.07, Critical Path Schedule, is deleted and replaced with the following:

- .01 Initial and updated critical path schedules shall be prepared and submitted as detailed below:
- a) Two (2) paper copies and one (1) electronic copy in the format of the scheduling software and readable by the scheduling software of the initial construction schedule shall be submitted to the Regional Contracts Office within 7 Business Days of receipt of the Notice of Selection.
 - b) One (1) hard copy of the initial construction schedule shall also be submitted to the Contract Management Office, St. Catharines, with the executed copies of the Contract.
 - c) Where the Contractor has revised the initial construction schedule prior to the first site meeting, the revised construction schedule shall be submitted to the Contract Administrator at least 3 Business Days prior to the meeting.

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- d) 2 paper copies and 1 electronic copy in the format of the scheduling software and readable by the scheduling software of an updated schedule shall be prepared and submitted to the Contract Administrator not less than 3 Business Days prior to all regularly scheduled site meetings. All revisions shall be highlighted on the updated schedule. Updated schedules submitted shall reflect actual progress of the Work and any additions, deletions, or revisions to the Work that have arisen since the previous update. At regularly scheduled site meetings, the Contractor shall explain the revisions and any increase or decrease in resources required to complete the Work on time. At the Contract Administrator's request, and at no additional cost to the Owner, the Contractor shall submit an updated schedule within 7 Business Days of any major increase or decrease in quantities, or major change in the staging or perceived change in character of the Work.
- e) All copies shall be legible and shall show the date the schedule was prepared.

GC 7.02 Layout

Subsection GC 7.02, Layout, is amended as follows:

Paragraphs .01 and .02 are deleted and replaced with the following:

- .01 Prior to commencement of construction, the Contractor shall locate on site those property bars and benchmarks that are necessary to delineate the Work Area and to lay out the Work.
- .02 The Contractor shall be responsible for the preservation of all property bars, reference points or survey monuments while the Work is in progress, except those property bars that require removal to facilitate the Work. Any property bars disturbed, damaged, or removed by the Contractor's operations shall be replaced under the supervision of an Ontario Land Surveyor, at no cost to the Owner.

Paragraphs .06 and .09 are deleted in their entirety.

GC 7.05 Use of Construction Equipment and Unlicensed Vehicles

Subsection GC 7.05, Use of Construction Equipment and Unlicensed Vehicles, is amended by the addition of the following clause:

- .03 The use of unlicensed vehicles and construction equipment on bridges under construction and bridges within the contract limits shall be subject to the following requirements:
 - a) Loading shall not exceed the limits specified elsewhere in the Contract.
 - b) Unlicensed vehicles and construction equipment that comply with the legal load limits specified in the Highway Traffic Act may be used. Except as noted in "c"

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below, the Contractor shall not cause or permit such vehicles to be loaded beyond the legal limit specified in the Highway Traffic Act, including bridge postings and load restrictions. The Contractor shall provide proof of load weight to the Contract Administrator for any disputed loads.

- c) Unlicensed vehicles and construction equipment that is overloaded in terms of the Highway Traffic Act or track propelled equipment greater than 30 tonnes, which the Contractor proposes to drive over bridges under construction and bridges within the contract limits shall be subject to approval. The Contractor shall submit to the Contract Administrator a description and detailed configuration of every such equipment and a certificate, signed and sealed by an Engineer. The certificate shall list the site numbers of every bridge that may be traversed by the subject equipment and state that each Engineer has evaluated, according to the requirements of CAN/CSA-S6-14, every bridge listed, and that each bridge can safely support all loads.
- .04 Unless permitted elsewhere in the contract, pile-driving equipment shall not be permitted to operate on bridges.

GC 7.08 Maintaining Roadways and Detours

Paragraph .02 of Subsection 7.08, Maintaining Roadways and Detours, is amended by deleting the 1st two sentences and replacing them with the following:

- .02 The Contractor shall not be required to maintain a Roadway through the Working Area before the Contractor has commenced the Work, or during seasonal shutdown or within any sections of the Roadway where the general warranty period has commenced. Responsibility for maintenance shall be transferred between the Contractor and the Owner at the commencement of the Work, the start and end of each seasonal shutdown period, and the start of the general warranty period.

GC 7.10 Approvals and Permits

Subsection GC 7.10, Approvals and Permits, is amended by deleting paragraph .01 and replacing it with the following:

- .01 Except as specified in paragraph GC 7.10.02, the Contractor shall obtain any permits, licenses, and certificates required for the performance of the Work that are in force at the date of RFP Closing.

GC 7.13.02 Environmental Incident Management under Legislation Protecting the Environment and Natural Resources

Clause GC 7.13.02, Environmental Incident Management under Legislation Protecting the Environment and Natural Resources, is amended by the addition of the following at the end of paragraph .01.

g) Gasoline Handling Act, RSO 1990.

GC 7.18 General Warranty

Subsection GC 7.18, General Warranty, is amended by deleting paragraph .02 and replacing it with the following:

- .02 Subject to the previous paragraph, the Contractor shall correct promptly at no cost to the Owner, defects or deficiencies in the Work that appear during the period of 24 months after the date of Contract Completion as set out in the Contract Completion Certificate or such longer periods as may be specified for certain Materials or components of the Work or longer general warranty periods specified elsewhere in the Contract Documents. The Owner shall promptly give the Contractor written notice of observed defects or deficiencies. The Contractor shall submit a comprehensive repair Proposal, including traffic control measures, to the Owner within 15 Days of receiving written notification of the defects or deficiencies.

Notwithstanding the above, on Contracts lasting more than one (1) construction season, the Owner shall allow the general warranty period (twenty four (24) months unless otherwise specified elsewhere in the Contract Documents) to commence prior to the date of Contract Completion for complete sections of Roadways that have been completed in their entirety, have a value of greater than five million dollars (\$5,000,000), and are in use by public traffic. In such cases, the Contractor shall apply in writing to the Owner for approval of the start dates of the general warranty for the selected sections of completed Roadways. The written request shall be submitted to Contract Administrator no later than ten (10) Days prior to the proposed general warranty start dates and include details as to the limits, location, and start date requested. If a request is granted, the Contractor shall correct promptly at no cost to the Owner, defects or deficiencies in the completed section of Roadway, which appear during the warranty period.

Section GC 7.0, CONTRACTOR'S RESPONSIBILITIES AND CONTROL OF THE WORK, of the MTO General Conditions of Contract is amended by the addition of the following subsection:

GC 7.20 Stockpiling of Material

Stockpiling of materials on bridges shall be restricted as follows:

- .01 The Contractor shall not stockpile material weighing more than 1.5 kPa on spans of bridges in which concrete removal has commenced for rehabilitation.
- .02 In cases other than stipulated in .01 above, the Contractor shall not stockpile material weighing more than:

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- a) 5 kPa on decks of highway bridges unless specified otherwise elsewhere in the contract;
- b) 2 kPa on decks of pedestrian bridges unless specified otherwise elsewhere in the contract.

SECTION GC 8.0 MEASUREMENT AND PAYMENT**GC 8.01 Measurement****GC 8.01.01 Quantities**

Clause GC 8.01.01, Quantities, is amended as follows:

Paragraph .02 is deleting and replaced it with the following:

- .02 Measurement of the quantities of the Work shall be by percent completion of the items.

Paragraph .03 is added to the end of the clause:

- .03 Measurement of Mobilization shall be according to the following schedule:

- a) Upon commencement of mobilization for construction, 25% of the total amount bid for mobilization or 2.5% of the total construction value (excluding mobilization), whichever is less.
- b) Upon completion of 5% of total construction value, 37.5% of the total amount bid for mobilization or 5% of the total construction value (excluding mobilization), whichever is less.
- c) Upon completion of 10% of total construction value, 37.5% of the total amount bid for mobilization or 10% of the total construction value (excluding mobilization), whichever is less.
- d) Upon substantial performance – the remaining amount of the item.

This item shall consist of all preparatory work necessary for the movement of personnel and equipment to the project site. This item shall be exclusive of all labour, equipment, and material to be paid under other items.

GC 8.02.04.01 Progress Payment Certificate

Subsection GC 8.02.04.01, Progress Payment Certificate, is amended by deleting paragraph .01 and replacing it with the following:

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- .01 The Contractor shall submit an application for progress payment monthly after starting the Work on this Contract. This application for progress payment shall be for work completed at the agreed to monthly cut-off date.

Within 5 Business Days following the agreed to monthly cut-off dates, the Contractor shall submit an updated application to the Contract Administrator.

The application shall be made by supplying the Contract Administrator with an invoice detailing the progress of each item at the agreed monthly cut-off date. The invoice shall be submitted on Owner's Standard Form PH-CC-882.

- a) Subtotals shall be detailed for tender items to match the Itemized Bid Form, and a subtotal for Change Orders.
- b) The item information appearing on the invoice shall agree exactly with those as shown in the Itemized and Evaluation Bid Form.

Invoices shall be submitted in hard-copy and digital format. The Contract Administrator shall review the invoice for completeness and subsequent approval for payment within 5 Business Days.

The Contract Administrator shall notify the Contractor immediately if there are any discrepancies with the invoice. The Contractor shall be requested to resubmit the invoice, with any noted correction made, within 3 Business Days.

In the event the Contractor disagrees with the Contract Administrator's assessment, the Contractor shall notify the Contract Administrator of their disagreement within 3 Business Days. The Contract Administrator shall review and provide the Contractor with a final response within 5 Business Days.

The Owner shall pay the approved invoice within 28 Days after the application for progress payment date or after the date of receipt of any invoice that had to be resubmitted due to deficiencies, errors, or non-compliance with the Owner's request in the preceding paragraphs.

The Owner shall not process for payment any changes less than \$1,000 from the amount shown on the previous payment certificate.

GC 8.02.04.02 Payment Adjustment for Changes in the Fuel Price Index

Clause GC 8.02.04.02, Payment Adjustment for Changes in the Fuel Price Index, is deleted in its entirety.

DESIGN-BUILD REQUEST FOR PROPOSALS

APPENDIX A - Submission Forms

Conflict of Interest - Certification**PART 1**

1. a) I/We hereby confirm that there is not nor was there any actual or perceived conflict of interest in our submitting the Proposal or performing the Work required by the Contract.

[or if applicable, strike out the above and include the following:]

- (b) The following is a list of situations, each of which may be a conflict of interest, or appears as potentially a conflict of interest in our company submitting the Proposal or the contractual obligations of the Design-Builder under the Contract.

(add attachments if required)

2. a) In submitting the Proposal, our company has no knowledge of or the ability to avail ourselves of confidential information of the Crown (other than confidential information which may have been disclosed by the Minister to the Proponents in the normal Request For Proposal).

[or if applicable, strike out the above and include the following:]

- b) In submitting the Proposal, our company has knowledge of or the ability to avail ourselves of confidential information of the Crown (other than confidential information which may have been disclosed by the Minister to the Proponents in the normal Request For Proposal) and the confidential information was relevant to the Work, its pricing or the Request For Proposal evaluation process.

Name

Proponent's Signature

Position

Date

Conflict of Interest - Disclosure

PART 2

The following people participated in the preparation of our Proposal:

Name	Address	Telephone Number	Contribution or % of Work
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____

The following is a list of individuals who are former employees of the Ontario Public Service (OPS) and have ceased that employment prior to the Proposal Submission Deadline:

Name	Job Classification of Last Position within OPS	Ministry/Agency of OPS Where Last Employed
1. _____	_____	_____
2. _____	_____	_____
3. _____	_____	_____
4. _____	_____	_____
5. _____	_____	_____

Name

Proponent's Signature

Position

Date

Form of Offer

1. Proponent Information

a) The full legal name of the Proponent is:

b) Any other relevant name under which the Proponent carries on business is:

c) The jurisdiction under which the Proponent is governed is:

d) The name, address, telephone, facsimile number and e-mail address of the contact person for the Proponent is:

e) Whether the Proponent is an individual, a sole proprietorship, a corporation, a partnership, a joint venture, an incorporated consortium or a consortium that is a partnership or other legally recognized entity:

2. Mandatory Submission Requirements

- (a) The Proponent encloses herewith as part of the Proposal, the mandatory submissions set out below:

	Yes	Page
Technical Proposal		
Transmittal Letter		
Conflict of Interest – Certification		
Conflict of Interest – Disclosure		
Form of Offer		
Confirmation of RAQS approved Designer		

3. The Proponent:

Has carefully examined the RFP documents and has a clear and comprehensive knowledge of the Deliverables required under the RFP. By submitting the Proposal, the Proponent agrees and consents to the terms, conditions and provisions of the RFP, and offers to provide the Deliverables in accordance therewith at the price set out in the price Proposal.

Is deemed to have read and accepted all Addenda issued by the Ministry. The onus remains on Proponents to make any necessary amendments to their Proposal based on the Addenda. The Proponent is requested to confirm that it has received all Addenda by listing the Addenda numbers or, if no Addenda were issued, "None":

Agrees that any information provided in this Proposal, even if it is identified as being supplied in confidence, may be disclosed where required by law or if required by order of a court or tribunal. The Proponent hereby consents to the disclosure, on a confidential basis, of this Proposal by the Ministry to the Ministry advisers retained for the purpose of evaluating or participating in the evaluation of this Proposal.

Agrees that by signing the Form of Offer, the Proponent agrees, if selected, to provide proof of insurance coverage as required in Chapter 3 of the RFP. If selected, the Proponent shall provide proof of insurance coverage in the form of a valid certificate of insurance prior to the execution of the Agreement by the Ministry.

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Understands that in the event its Proposal is selected by the Ministry, in whole or in part, the Proponent agrees to finalize and execute the Agreement in the form set out in Appendix B to the RFP according to the terms of the RFP.

Signature of Witness

Signature of Proponent Representative

Name of Witness

Name and Title

Date:

I have authority to bind the Proponent.

Itemized Bid and Evaluation Form

Proponent Name: _____

Date: _____

Item #	Description of Item	Unit	Quantity	Unit Price	Total Item Prices
1	Performance Bond	Lump Sum	1	N/A	\$
2	Labor & Material Bond	Lump Sum	1	N/A	\$
3	Travel Time System Design	Lump Sum	1	N/A	\$
4	Construction of Travel Time System	Lump Sum	1	N/A	\$
5	Removal of Existing Travel Time System	Lump Sum	1	N/A	\$
6	Travel Time Service Operation, Maintenance and Support and LTE Services	Lump Sum	1	N/A	\$
7	Optional Extension of Travel Time Service Operation, Maintenance and Support and LTE Services, 2 Years Contract Extension	Lump Sum	1	N/A	\$
8	Decommissioning of Travel Time System	Lump Sum	1	N/A	\$
9	Change Management	Lump Sum	1	N/A	\$
9a	Addition/Revision to Travel Time Routes	Each	10		\$
9b	Addition of BT Readers	N/A	N/A	N/A	N/A
9b1	At ATMS Cabinet, Bluetooth reader Unistrut mounted	Each	5	\$	\$
9b2	At ATMS cabinet, Bluetooth reader mounted on existing pole or VMS structure	Each	5	\$	\$
9b3	At ATMS cabinet, Bluetooth reader mounted on new sectional steel pole, behind noise barrier wall	Each	5	\$	\$

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9b4	Standalone installation, Bluetooth reader mounted on new sectional steel pole	Each	5	\$	\$
9c	Relocation of Bluetooth Readers within Construction Zones	Each	25	\$	\$
Total	Summary Bid Submission as referred to in Section 1.13.5.2				\$

NOTES:

1. Please fill in all "Blue" areas of the sheet.
2. The Total Bid Price is the sum of all Item Prices and shall equal the Summary Bid previously submitted.
3. The Item Prices shall reflect a distribution of costs similar to what would be expected in a conventional item listing.
4. The Item Prices are to be determined by following the Item Price Guidelines attached.

DESIGN-BUILD REQUEST FOR PROPOSALS

APPENDIX B **Agreement & Design-Build Guarantee**

Agreement

DESIGN-BUILD CONTRACT –2021-2025

This Contract is made in duplicate as of the day of , 2021,

B E T W E E N:

**Her Majesty the Queen in right of Ontario as
represented by the Minister of
Transportation**

(the “**Ministry**”)

- and -

[enter Design-Builder name]

(the “**Design-Builder**”)

WHEREAS the Ministry issued a Request for Proposals for design and construction services in the **[name]** Area under Contract Number **[enter number (s)]** (the “RFP”, as herein defined);

AND WHEREAS the design and construction services (the “Work”, as herein defined) are required from **[enter beginning and end dates]**

AND WHEREAS the Design-Builder has represented that it has the knowledge, ability, and expertise to carry out the design and construction services and supervise and manage the Work as required by the Ministry and as contemplated in this Contract;

AND WHEREAS the Ministry has negotiated with the Design-Builder to provide such design and construction services in the **[name of area]** Area from **[beginning and end dates]** under the terms and conditions provided herein;

AND WHEREAS the Design-Builder shall provide the Contract services (the Work) for a Lump Sum price of \$ **[enter price Proposal price]**

IN CONSIDERATION OF the covenants and agreements herein contained and for other good and valuable consideration (the receipt and sufficiency of which are hereby contained and acknowledged), the parties hereto covenant and agree to carry out the terms and conditions of this Contract;

NOW THEREFORE THIS AGREEMENT WITNESSES that the parties agree as follows:

TERMS AND CONDITIONS

1.0 AGREEMENT

1.1 That Design-Build Contract 2021-2025 (the "Contract") is comprised of the following documents:

- (a) this Design-Build Agreement (and any future amendments made according to the RFP);
- (b) the Request For Proposals for Contract 2021-2025, including, all Appendices, Addenda [enter #1,2,3,4 as appropriate], forms and information provided therewith, and all documents referred therein, unless otherwise specified (the "RFP");
- (c) the Design-Builder's Proposal for Contract 2021-2025; including any correspondence
- (d) (if applicable) the Guarantee, as required by Subsection 1.8.4., Joint Ventures or Joint Bids, of the RFP, herein attached as Schedule 2;
- (e) any specifications or standards as referenced in the above documents; and
- (f) the Design-Builder's insurance as required by Chapter 3 General Conditions

1.2 The parties agree that the recitals are true and shall form part of this Contract.

IN WITNESS WHEREOF the parties hereto have executed this Contract.

Her Majesty the Queen in right of the Province of Ontario as represented by the Ministry of Transportation	[Design-Builder name] (Corporate Seal)
Name:	Name:
Title:	Title:
Signature:	Signature:
Date:	Date:

Schedule 2 - Design-Build Guarantee

1.1 Definitions

"Contract", "the Contract", "this Contract" means the Design-Build Contract for 2021-2025 to which this Design-Build Guarantee is attached and of which this Design-Build Guarantee forms a part.

"Design-Build Guarantee", "this Design-Build Guarantee", "the Design-Build Guarantee", "whereof", "hereof", "herein", "hereby", "hereunder", and similar expressions mean this guarantee of all of the undersigned of the performance by the Design-Builder of all of its obligations under the Contract.

"Guarantor" and "Guarantors" means all of the undersigned, collectively, and their respective permitted successors and assigns.

1.2 Guarantee

Each of the Guarantors, on a joint and several basis, does hereby absolutely, unconditionally and irrevocably guarantee, as a direct obligation, and as principal obligor and not as a surety, the full and prompt performance and observance by the Design-Builder of each and every covenant, agreement, undertaking and obligation of the Design-Builder contained in the Contract as same may be amended or waived according to the provisions of this Contract (collectively, the "Liabilities").

1.3 General Provisions Relating to the Guarantee

- (a) Each and every default in performance, observance or payment of any of the Liabilities by the Design-Builder shall give rise to a separate claim and cause of action hereunder, and separate claims or suits may be made and brought, as the case may be, hereunder as each such default occurs.
- (b) The Design-Build Guarantee herein provided for shall be a continuing, absolute and unconditional guarantee of performance, observance and payment as aforesaid and shall remain in full force and effect until each and all of the Liabilities shall have been fully and satisfactorily discharged according to the terms and provisions of the Contract and the Guarantors shall have fully and satisfactorily discharged all of their obligations under this Design-Build Guarantee.
- (c) The liability of the Guarantors hereunder shall remain in full force and effect irrespective of:
 - (i) the legality, validity, regularity or enforceability of the Contract and shall in no way be affected or impaired by (and no notice of the Guarantors shall be required in respect of) any compromise, waiver, renewal, extension, indulgence, amendment, addition, deletion, change or modification with

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respect to the Liabilities or any of them or any release of any security (including any other guarantee, letter of credit or bond) for or in respect of the Liabilities or any of them; or

- (ii) any failure, neglect or omission on the part of the Ministry or any other person to give the Guarantors (or any of them) notice of the occurrence of any default by the Design-Builder under or with respect to the Liabilities, or to realize upon any obligations or liabilities of the Design-Builder; or
 - (iii) any amalgamation, merger or consolidation of the Design-Builder or the Guarantors (or any of them) or any sale, lease or transfer of any of the assets of the Design-Builder or any of the Guarantors; or
 - (iv) any change in the ownership of any shares of the capital stock of the Design-Builder or the Guarantors (or any of them); or
 - (v) any other occurrence or circumstance whatsoever, whether similar or dissimilar to the foregoing and any other circumstance that might otherwise constitute a legal or equitable defense or discharge of the liabilities of a guarantor or surety that might otherwise limit recourse against the Guarantors or any of them.
- (d) The obligations and liabilities of the Guarantors hereunder shall not be impaired, diminished, abated or otherwise affected by (i) any set-off, defense or counterclaim that the Design-Builder or any of the Guarantors may have or claim to have, at any time or from time to time, or (ii) the commencement by or against the Design-Builder or any of the Guarantors of any proceedings under any bankruptcy or insolvency law or laws relating to the relief of debtors, readjustment of indebtedness, reorganizations, arrangements, compositions or extension or other similar laws.
- (e) The Ministry shall not be bound to exhaust its recourse against the Design-Builder or others or any securities (including, any letter of credit and/or bond) or other guarantees it may at any time hold before being entitled to performance of payment of the Liabilities from the Guarantors and the Guarantors renounce all benefits of discussion and division.
- (f) It is the intent and purpose hereof that the Guarantors shall not be entitled to and do hereby waive any and all defenses available to guarantors, sureties and other secondary parties at law or in equity. Without limiting the generality of the foregoing, each of the Guarantors hereby waives notice of acceptance of this Contract and of the non-performance by the Design-Builder, diligence, presentment, protest, dishonour, demand for payment from the Design-Builder and notice of non-payment or failure to perform on the part of the Design-Builder and all other notices whatsoever. The Design-Build Guarantee hereunder is a guarantee of payment, performance and compliance. In order to hold the Guarantors liable hereunder, there shall be no obligation on the part of the

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Ministry at any time to demand or resort for payment of performance to the Design-Builder, its properties or assets or to any security, property or other rights or remedies whatsoever, nor shall there be any requirement that the Design-Builder be joined as a party to any proceeding for the enforcement of any provision of this Design-Build Guarantee and the Ministry shall have the right to enforce the provisions of this Design-Build Guarantee irrespective of whether or not legal proceedings or other enforcement efforts against the Design-Builder are pending, or the Ministry is seeking resort to or realization upon of from any of the foregoing. Without limiting the foregoing, it is understood that repeated and successive demands may be made and recoveries may be had hereunder as and when from time to time, the Design-Builder shall default under or with respect to any of the Liabilities, and that, notwithstanding recovery hereunder for or in respect of any such default, the guarantee herein shall remain in force and effect and shall apply to each and every subsequent default.

- (g) Without prejudice to and without releasing, discharging, limiting or otherwise affecting in whole or in part the obligations and liabilities of the Guarantors under this Design-Build Guarantee and without in any way requiring the consent of or giving notice to the Guarantors or any of them, the Ministry may grant time, renewals, extensions, indulgences, releases and discharges to and accept compositions from or otherwise deal with the Design-Builder and/or the Guarantors (or any of them) or others, including any other guarantors, as the Ministry may see fit and the Ministry may take, abstain from taking or perfecting, vary, exchange, renew, discharge, give up, realize on or otherwise deal with security and guarantees in such manner as the Ministry may see fit.
- (h) The Design-Build Guarantee hereunder shall continue to be effective, or be reinstated, as the case may be, if at any time payment, or any part thereof, of any of the obligations hereunder is rescinded or shall otherwise be restored or returned by the Ministry upon the insolvency, bankruptcy or reorganization of the Design-Builder, or otherwise, all as though such payment had not been made.
- (i) The liability of the Guarantors under the Design-Build Guarantee herein shall arise forthwith after demand has been made in writing on the Guarantors, and the liability of the Guarantors shall bear interest from the date of such demand at the Rate of Interest.
- (j) The Guarantors jointly and severally agree to pay to the Ministry any and all reasonable out-of-pocket costs and expenses, including legal fees, incurred by the Ministry in connection with enforcing any of its rights hereunder.
- (k) A waiver by the Ministry of any right or remedy hereunder on any one occasion shall not be construed as a bar to any right or remedy which the Ministry would otherwise have had on any future occasion with regard to any subsequent breach. No failure to exercise nor any delay in exercising on the part of the Ministry any right, power or privilege hereunder shall operate as a waiver thereof;

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nor shall any single or partial exercise of any right, power or privilege hereunder preclude any other or further exercise thereof or the exercise of any other right, power or privilege. The rights and remedies herein provided are cumulative and may be exercised singly or concurrently, and are not exclusive of any other rights and remedies provided under this Contract or otherwise by law.

(Company Name)

By:_____

An Authorized Signing Officer:

Name:_____

Position:_____

Date:_____

(Company Name)

By:_____

An Authorized Signing Officer:

Name:_____

Position:_____

Date:_____

Insert additional Companies as required

APPENDIX C

Index of Ministry Supplied Information

RFP DB Contract 2021-2025

The following is a listing of information available to Proponents as part of this RFP. Files listed in Table C-1 can be accessed on the RAQS/MERX website at: www.raqs.merx.com.

Reliance on the information is according to Section 1.10 Ministry Supplied Information.

All requirements, designs, documentation, plans and information viewed or obtained by the Proponents in connection with this RFP are the property of the Ministry and shall be treated as confidential and not used for any purpose other than replying to this RFP and the fulfillment of the Work. Upon request of the Ministry, all such designs, documents, plans and information shall be returned to the Ministry.

Table C-1 – Information available on RAQS/MERX

Document #	Document File Name	Document Description
1	Installation of Bluetooth Readers for Travel Time System	
2	MTO Data Specifications	
3	Protection of Public Traffic and Environmental Requirements	

APPENDIX D

Certificate of Design and Construction

Certificate of Design and Construction

<Company Letterhead>

<Date>:

<File>:

Attention: <Name>

<Company>

<Address>

<Town, Prov, Postal>

Dear <xxx>:

Reference: <Project Title>

CERTIFICATE OF DESIGN AND CONSTRUCTION

<Design-Builder name> is responsible for the design and construction of all elements of the Work (including the work of our sub-consultant(s), <xxx>). We have completed the Work in accordance with the Contract and are covered by appropriate Professional Liability insurance policies.

All government and agency authorizations and approvals have been applied for, obtained and/or complied with, as may be required. There are no outstanding infractions of laws and regulations.

All quality inspection and testing of the Work has been completed in accordance with the Design-Builder's Quality Management Plan and the Contract Documents.

<Close-off>

<Company>

<Signature>, P.Eng.

<Title>

<Contact Information>

APPENDIX E

System Specifications Compliance Matrix

APPENDIX F

Travel Time Service Level Agreement